CARDIFF UNIVERSITY

Self-Esteem and Aggression:
The Relationships between Explicit-Implicit Self-Esteem, Narcissism, and Reactive-Proactive Aggression

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I dedicate this thesis to my parents

Dato' Prof. Amad Aman and Datin Norzila Ibrahim,

to my soulmate

Zaki Aini,

and to my daughter

Nina Adrianna

DECLARATION

This work has not been submitted in substance for any other degree or award at this or any other university or place of learning, nor is being submitted concurrently in candidature for any degree or other award.

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THESIS SUMMARY

Aggression can be detrimental to both victims and perpetrators. Recent research on the theoretical risks for aggressive behaviours fail to demonstrate consistent links with the human's evaluation of self-worth, hence the nature of this relationship remains unclear. Specifically, the purpose of the investigation was to examine the differential association between multidimensional self-esteem using both explicit and implicit measures, narcissism, and reactive and proactive aggression across three samples of different cultures and characteristics. Chapter 1 discusses the general background of the study and a brief review of the possible issues that might have contributed to the ambiguous findings on the relationships between self-esteem and aggression. Chapter 2 discusses the theoretical links between self-esteem and aggression, which includes the limitations of self-report assessments (i.e., explicit measures) and how the alternative of indirect assessment tools (i.e., implicit measures) may help to overcome this issue by assessing more automated forms of processes involved in the development of aggressive behaviours. The investigation examines whether the use of the current Single-Target Implicit Association Test (ST-IAT) would provide a greater empirical support for the links between multidimensional self-esteem with reactive and proactive aggression, relative to self-report questionnaires. Chapter 3 describes the evidence surrounding the role of multidimensional self-esteem in different types of aggression in a different culture of similar characteristics, through a replication of the aforementioned investigation. The cross-cultural comparisons were inspected based on the individualistic-collectivistic perspectives. Chapter 4 further explores the relationship of interest by taking into account the content dimensions of self-esteem, namely agency and communion. These dimensions were assessed using both explicit

and implicit measures on a high-risk population sample within the community. Across each chapter, the current results concerning explicit self-esteem demonstrated consistent evidence to show that low self-esteem is associated with high reactive aggression, whereas narcissism is positively related to aggression, and proactive aggression in particular. Unfortunately, the use of the IAT paradigms in this current investigation did not improve prediction of group membership or estimated risk of aggression. Chapter 5 describes how such findings may be of benefit in unravelling the inconsistency within the self-esteem and aggression relationships. Through further replication and methodological refinement, the current findings could be utilised in support of forensic risk assessment needs within the violence/aggression treatment programmes.

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CHAPTER 1

INTRODUCTION

1.1 Overview

Human aggression and violence is a major worldwide public health issue, bringing substantial costs to society. Unfortunately, it is a widespread phenomenon that has a negative impact on both victims and perpetrators. Each year, more than 1.3 million people worldwide lose their lives to violence (World Health Organization, 2002). Further, the recent 2014 Crime Survey for England and Wales (CSEW; Office for National Statistics, 2015) shows that there were an estimated 1.3 million violent incidents against households and resident adults (aged 16 and above) in England and Wales. Whilst the number of violent incidents has decreased by 66% from its peak in 1995, when the survey estimated over 4.2 million violent incidents, the consequences of aggressive and violent behaviour are still a major concern. In particular, the associated problems reach far beyond death and injury, placing a massive burden on national economies, costing countries billions of US dollars each year in health care, law enforcement, and lost productivity (Office for National Statistics, 2013).

Victims and witnesses of aggression or violence are known to experience a range of physical and psychological problems as a result of such exposure. It has been found that such exposure has been linked to instances of psychological distress such as depression, anxiety, and posttraumatic stress. Further, Farrington, (1998) suggests that exposure to violence has a cyclical effect in which experience of episodes during childhood may develop into aggressive behaviour in later life. The personal and social costs of aggression have made it necessary to understand the underlying causes of why

some people are more predisposed to aggression than others (Larson & Lochman, 2002; Perez, Vohs, & Joiner, 2005), in order to effectively prevent or to help decrease its occurrence. There are a number of theories that attempt to explain why people act aggressively. Drawing from the models, researchers have identified a number of risk factors that are associated with this behaviour.

One particular factor that has been known to have an impact on the occurrence of aggression is self-esteem. Even though the issues of self-esteem and aggression are two of the most frequently studied in psychology, the theoretical relationship between them is still a matter of debate (Ostrowsky, 2010; Webster & Kirkpatrick, 2006), and it is evident that the exact nature of the relationship remains unclear. Traditionally, aggressive individuals were assumed to possess negative self-views (e.g., Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Locke, 2009; Webster, Kirkpatrick, Nezlek, Smith, & Paddock, 2007; Webster & Kirkpatrick, 2006; Webster, 2006). More recently, however, a growing body of research suggests that positively biased self-perceptions may actually be a determinant of aggressive behaviour (e.g., Baumeister, Bushman, & Campbell, 2000; Baumeister, Smart, & Boden, 1996), whilst other research findings have found no link between self-esteem and aggression (Bushman & Baumeister, 1998; Kirkpatrick, Waugh, Valencia, & Webster, 2002; Twenge & Campbell, 2003), and a curvilinear relationship between self-esteem and aggression (Perez et al., 2005). From the aforementioned debates, some questions arise: Are aggressive and violent people more likely to have low or high self-esteem? What are the possible causes of the inconsistent findings in the literature on this topic? Perhaps the following contradictions put forward by Walker and Bright (2009) regarding the

nature of violent individuals could help to provide us with a 'picture' for understanding the relationship between self-esteem and aggression.

" They are arrogant and yet there is a sense of low self-worth and vulnerability underneath; they are so tough externally yet seen driven by fear, they feel persecuted yet demand respect; they are so cold and emotionally numb yet hypersensitive; and they seem so antisocial and rejecting and yet desperate for contact and intimacy" (p. 27-28).

Though there are several excellent general reviews and approaches related to the relationships between self-esteem and aggression, each of these reflect, to some extent, the author's personal research interests and expertise. Due to the pace of development and breadth of research, a truly comprehensive review is probably impossible and certainly beyond the scope of this thesis. Hence, the focus of the current thesis is to pursue the question of how self-evaluation (i.e., self-esteem) through its dimensions', influences different types of aggressive behaviour in various contexts. In order to address this issue, this particular chapter presents a brief review of the problems and challenges that might underlie the conflicting findings that exist in the current literature.

1.2 Problems and Challenges

1.2.1 Aggression versus Violence: Conceptualisations and Variations

Aggression is a heterogeneous construct that falls within a broad category of behaviour. One of the major criticisms in understanding the causes of aggression is that too little attention is paid to the heterogeneity if this construct (Raine et al., 2006).

As a first step, therefore, it seems necessary to clarify the definitions of aggression and the way(s) in which it can be distinguished from violence.

1.2.1.1 Definitions

There are various definitions that attempt to capture the construct of human aggression, yet there is no single term that can adequately describe the variety of ways in which such behaviour is manifest (Connor, 2002). From a behaviourist perspective, aggression is simply characterized as the infliction of harm on others or noxious stimuli delivered to another organism (Buss, 1961). A general working definition is that, aggression refers to a range of behaviours that can result in either physical or psychological harm to oneself, others, or objects in the environment. An important aspect of aggressive behaviour towards others is the immediate intention underlying the perpetrator's behaviour to harm the target, such that the target is motivated to avoid the behaviour. Hence, actual harm is not required (Anderson & Bushman, 2002; Baron & Richardson, 1994; Geen, 2001). The harm can be delivered through aversive stimuli or by more passive means such as withholding beneficial stimuli (Benjamin, 2006).

Violence, on the other hand, is physical aggression at the extremely high end of the aggression continuum, such as murder and aggravated assault. Although all acts of violence are, by definition, acts of aggression, not all acts of aggression are acts of violence. Many aggressive acts are relatively common and result in only minimal physical harm, such as verbal attacks (e.g., insults) or minor physical assaults (e.g., hitting). A child calling another child an obscene name or pushing another child off a tricycle would be labelled as aggressive but not violent. A school shooting is both aggressive and violent. Some definitions of violence require that there not only be

serious physical harm inflicted on the victim, but that the action is also illegal. Such a narrow definition is unsatisfactory, largely due to its failure to include extreme physical harm that is perpetrated under the aegis of a nation's laws (typically in the form of organizational and structural violence). However, in this particular investigation, the topic of interest is centred on different types of aggression toward others, rather than violence.

1.2.1.2 Varieties of Aggression

Although most people consider aggression to be a physical or verbal attack, there are many less obvious ways in which people retaliate and hurt each other. The vast majority of contemporary theorists view aggression as a multidimensional construct (Little, Henrich, Jones, & Hawley, 2003; Parrott & Giancola, 2007; Vitaro, Brendgen, & Barker, 2006). Many of the definitions of aggression are aimed at distinguishing between different types of aggression. Thus, researchers have differentiated the various forms and functions of aggression and defined evidence-based homogenous groupings of aggressive behaviours based on factor analyses (Connor, 2002; Little et al., 2003).

Theorists have proposed numerous subtypes of aggression that may be expressed through various channels. In a comprehensive review, Parrott and Giancola (2007) have identified the following subtypes of aggression that have existed in the literature: Direct versus indirect (Buss, 1961), physical versus verbal (Buss, 1961), active versus passive (Buss, 1961), rational versus manipulative (Björkqvist, Österman, & Kaukiainen, 1992), proactive versus reactive (Dodge, 1991), antisocial versus prosocial (Sears, 1961), annoyance-motivated versus incentive-motivated (Zillmann,

1979) overt versus covert (Buss, 1995), targeted versus targetless (Buss, 1961), overt versus relational (Crick & Grotpeter, 1995; Crick, 1996), and relational versus social (Björkqvist, 2001; Underwood, Galen, & Paquette, 2001).

However, the lack of conceptual clarity and the inability to reach a consensus regarding an operational definition of aggressive behaviour have led to the criterion problem. Consequently, there is a lack of precision in the measurement of aggression (Parrott & Giancola, 2007). Hence, not only are its operational definitions and its various manifestations frequently misinterpreted, many instruments designed to assess aggressive acts do not adequately correspond to existing definitions. Given the existence of so many working definitions, there is great variability between assessment instruments that are based upon different theoretical conceptualizations of aggression.

Although each classification system has its advantages, the issues mentioned above should also need to be considered in the current investigation. Therefore, aggression can primarily be classified in terms of the following:

Function of Aggression: Reactive and Proactive Aggression

These two types of aggression are distinguished on the basis of their function (Dodge & Coie, 1987; Raine et al., 2006) and differ in terms of their goals, level of physiological arousal, and theoretical roots. Reactive aggression, which can also be categorised as hostile or impulsive aggression (Anderson & Bushman, 2002), refers to aggression in response to provocation and negatively perceived or actual threats. The goal of reactive aggression is to defend oneself or inflict harm on a source of frustration (Connor, 2002). Reactive aggression which is often accompanied by anger (Cohen,

Hsueh, Russell, & Ray, 2006), is underpinned by intense central nervous system (CNS) autonomic arousal, and unplanned attacks on the 'object' of frustration (Dodge, 1991). Similarly, reactive aggression involves a lack of inhibitory functions, reduced self-control, and increased impulsivity (Raine et al., 2006). Reactive aggression is rooted in the frustration-aggression theory (Dollard, Miller, Doob, Mowrer, & Sears, 1939) in which the aggression is thought to arise in response to frustration that is caused by being prevented from attaining a particular goal (Connor, 2002).

In contrast, proactive aggression, also known as instrumental or predatory aggression, can be described as "cold-blooded". It refers to behaviour in which the goal is to obtain a desired outcome or reward. Proactive aggression involves unprovoked deliberate behaviour that is carefully planned (Crick & Dodge, 1996). Physiologically, there is little central nervous system (CNS) arousal, irritability, anger, or fear when an individual engages in proactive aggression (Connor, 2002). Proactive aggression has its theoretical roots in the social learning theory (Bandura, 1973), whereby aggression is a learned phenomenon reinforced by social role modelling and positive reinforcement (outcomes) for aggressive behaviours in a social context (Connor, 2002; Cohen et al., 2006).

It has been stated by Raine et al. (2006) that the classification of aggression as either reactive or proactive is particularly important as it helps to distinguish the intrinsic motivation for the aggressive act. The main key to this typology is that reactive aggression is performed in response to external stimuli that are perceived as potential aversive, and proactive aggression is motivated by internal desire and goals that are perceived as rewarding. McGuire (2008) agrees that a definition based on the function

of aggression may also help during interventions in the clinical setting, if the function of the problematic behaviour can be better understood. Throughout this thesis, aggression types will be mainly based on the distinctions between these types of aggression, and will be discussed further in the empirical chapter.

Modes of Expression: Direct and Indirect Aggression

Another classification of aggression is in terms of direct versus indirect expression (Björkqvist, Österman, & Lagerspetz, 1994). The fundamental distinction between direct and indirect aggression is based on how aggression is elicited in social interactions (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Björkqvist, 1994; Buss, 1961). It involves the route via which aggression is delivered, thus enabling the victim to identify the perpetrator. Direct aggression is defined as the delivery of an aversive stimulus to another person in a face-to-face confrontation (Björkqvist, Österman, Kaukiainen, 1992), in which the perpetrator is easily identifiable by the victim. Likewise, direct aggression takes place during direct social interaction whereby the harm is delivered through direct verbal or physical means – threats or actual physical contact (e.g., cursing or slapping; Buss, 1961; Richardson & Green, 2006).

In contrast, the term indirect aggression, introduced by Feshbach (1969), refers to behaviours that inflict harm upon a target by means of rejection or exclusion. Indirect aggression involves social manipulation by the perpetrator, where the aggressive act is delivered more circuitously, such that there is no direct contact in the social interaction between the two parties. Instead, a third party - another person or an object - may participate, so the perpetrator is therefore able to remain unidentified, thereby avoiding accusation, direct confrontation, and/or counterattack from the target (Buss,

1961; Lagerspetz & Björkqvist, 1994; Richardson & Green, 1997, 1999). Indirect aggression usually occurs in those individuals who are socially inhibited (Richardson & Green, 2003). Examples of indirect aggression include spreading vicious rumours about a person and destroying something that belongs to a person. It is also referred to as social aggression *(*e.g., Galen & Underwood, 1997)[1] or as relational aggression (Crick & Grotpeter, 1995)[2], when it involves manipulation of social relations or damaging an individual's reputation, friendship, or social status. Although these three terms refer to the social manipulation of peer relations in order to harm another individual, indirect aggression is mainly covert in nature whereas relational aggression can be both covert (e.g., spreading rumours) and overt (e.g., threatening to withdraw friendship). Indirect aggression is a "safe" form of aggression that maximises its impact, but minimises the risk of physical danger. However, the subtle forms of aggression displayed through social exclusion and rumour spreading (Björkqvist, Österman, Kaukiainen, 1992) are as harmful as physical aggression (Vitaro et al., 2006) producing a range of negative effects including anxiety, depression, and even suicide ideation.

Literature relevant to this issue indicates that direct and indirect acts of aggression are, in fact, separate constructs (Richardson & Green, 2003). Despite the substantial inter-correlation ($r = .76$; Card, Stucky, Sawalani, & Little, 2008)[3], between them, these two

[1] This term is used to refer to behaviours such as rejection, negative non-verbal expressions, rumour spreading, or social exclusion aimed at damaging the victim's self-esteem or social status

[2] This term is used to refer to harming others through manipulation of peer relationships (e.g., threatening to terminate friendship, excluding from group).

[3] A meta-analytic review of 148 studies on children and adolescents, examining direct and indirect aggression, and comparing the magnitude of gender differences, inter-correlations between forms, and associations with maladjustment.

forms of aggression showed unique associations with maladjustment. Direct aggression, which is considered to be less socially acceptable than indirect forms of aggression, is more strongly related to externalizing problems, poor peer relations, and low pro-social behaviour. Conversely, indirect aggression is related to internalizing problems and higher pro-social behaviour. Therefore, the direct/indirect distinction appears to be quite appropriate, given that it provides clearly defined conceptual boundaries for different expressions of aggressive acts and is supported by empirical research.

Other Forms of Aggression/Aggression-Related Constructs

The possible lack of definitional clarity when applying terms related to aggression has often led to confusion. Some researchers have used the terms anger, aggression, and hostility interchangeably, whilst others have defined these as distinctively different. In addition to the direct/indirect distinctions, a substantial body of aggression research has acknowledged the assessment of behaviours that are either physical or verbal in nature (e.g., Archer, 2004). These forms of aggression were in fact formulated and included in one of the earliest dichotomies of aggression (Buss, 1961). Physical aggression refers to the delivery of noxious stimuli to the victim that results in some degree of physical harm or injury (hitting, punching), or in damaging property (Buss & Perry, 1992). On the other hand, verbal aggression refers to the oral delivery of noxious stimuli that inflicts psychological harm upon the victim (swearing, cursing). This includes how argumentative people are, and how willing they are to voice their disagreement with others, including insults and derogatory comments.

The vast literature also considers aggression-related constructs such as anger and hostility (Ramírez & Andreu, 2006) which represent the psychological components of aggression. These are the affective (anger) and cognitive (hostility) components of aggression (Buss & Perry, 1992) that may or may not eventually lead to overt aggression, depending on a host of other factors (Anderson & Bushman, 2002). Through factor analyses, the four components of aggression have been gathered in the widely used Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992) and utilised as sub-traits in a global conceptualisation of aggression. According to Buss and Perry (1992), anger provides a bridge between hostility and the motor components of verbal and physical aggression. Anger may motivate aggression, but the actual expression (or not) of aggression depends on cognitive factors such as attributions and expectations. Furthermore, when the level of anger is diminished, hostility might remain as "a cognitive residual of ill will, resentment and perhaps suspicion of others' motives" (Buss & Perry, 1992). All these four components seem to be related to each other, varying in intensity, frequency, and duration. Hence, it also shows that some instruments not only measure manifest aggressive behaviours themselves, but also measure variables underlying overt aggression and precipitating factors.

It is necessary, therefore, to clarify in some way the complex relationship between anger, hostility, and aggression. Anger is perhaps the simplest concept of the three, since aggression and hostility are accompanied by feelings of anger. Both anger and hostility show similar physiological effects on the autonomic and somatic nervous systems, and in both there is a predisposition towards aggressive behaviours directed primarily towards the destruction of objects, insults, or the infliction of harm. If anger and hostility refer to feelings and attitudes, aggression implies a further step that

includes the appearance of behaviours that may be destructive, harmful, or punitive when aimed at other people or objects.

Given the great deal of debate and the inability to reach a consensus on how precisely aggression should be measured, I decided to utilise the types of aggression based on their function routes, which uses the reactive-proactive distinctions. Indeed, the distinction between proactive and reactive aggression has been shown to be a potentially important perspective that promises to shed light on different etiological pathways to aggression (Crick & Dodge, 1996; Dodge, 1991; Raine et al., 2006). It is hoped that through focusing on these types of aggression, the unique factors (i.e., self-esteem) that are associated with these different types of aggression can be identified.

1.2.1.3 Theoretical Perspectives of Aggression

Theories related to aggression attempt to uncover the underlying mechanism of the behaviour in order to better understand its causes. Accurate knowledge of what motivates aggressive behaviour may lead to more effective interventions for reducing or preventing it. Although not an exhaustive list, this section discusses some of the most related theories that are relevant to types of aggression involved in this investigation, namely reactive and proactive aggression.

Frustration - Aggression Theory

The theory which is related to reactive aggression has been developed by Dollard et al. (1939), and revised by Miller (1941) and Berkowitz (1969). According to this account, aggression is assumed to occur when individuals experienced a frustrating situation that prevents or blocks them from obtaining their goals (Dollard et al., 1939).

The closer a person gets to the goal, the greater the excitement and anticipation of pleasure. Hence, the closer the individual is to their goal, the greater the frustration produced if they are prevented from achieving it (Harris, 1974).

This model was a major breakthrough as it suggested that external and controllable factors were responsible for aggressive behaviour, rather than uncontrollable and internal factors (Pepler & Slaby, 1994). However, Berkowitz (1969) argues for the importance of an interaction between an internal emotional state and cues available in the environment that can trigger aggressive behaviour. Frustration is a feeling of tension that occurs when efforts directed toward a goal are blocked, but this state alone is not sufficient to produce aggression. Instead, frustration produces anger in which the frustrating experience promotes an emotional readiness for aggression. Hence, whether aggression will occur or increase depends on external stimuli or cues (Berkowitz, 1981; Sebastian, Parke, Berkowitz, & West, 1978).

Social Learning Theory

Proactive aggression is best explained by this particular theory. According to social learning theory, aggression is a learned form of behaviour (Bandura, 1973). In particular, people acquire aggressive responses in the same way that they acquire other complex forms of social behaviour (Anderson & Bushman, 2002; Mischel & Shoda, 1995; Mischel, 1973) either by direct experience, observational learning or self-regulatory influences. Although it has been argued that it is inappropriate to regard aggression as a product of social learning (Larson & Lochman, 2002), rewarding aggression increases the likelihood of it occurring again.

The social learning theory attempted to elaborate on the biophysiological theory by suggesting that observations and beliefs were acquired about how the world should be interpreted. These key concepts regarding the development and change of expectations, and how one interprets the social world is particularly useful in understanding the acquisition of aggressive behaviours and in explaining instrumental types of aggression. Hence, in order to explain the development and maintenance of aggression, the theory places a major emphasis on the environment, rather than individual factors alone.

Social Interaction Theory

Another approach to understanding aggression focuses on the role of aggression within social interaction (Tedeschi & Felson, 1994). Aggressive behaviour is seen as a coercive action that can produce a change in a social situation (i.e., in the target's behaviour), to gain something of social value (e.g., information, money, goods, sex, services, safety), to exact retributive justice for perceived wrongs, or to bring about desired social and self-identities (e.g., toughness, competence). This theory explains how aggression can be motivated by higher-level (or ultimate) goals. According to this theory, even hostile aggression may have an underlying rationale, such as punishing the provocateur to reduce the probability of impending provocations. It also provides an excellent way to understand recent findings that aggression is often the result of threats to high self-esteem, especially to unwarranted high self-esteem (i.e., narcissism; Baumeister et al., 1996; Bushman & Baumeister, 1998).

General Aggression Model (GAM)

In an attempt to integrate the various approaches mentioned above, Bushman and Anderson (2001) have more recently proposed The General Aggression Model (GAM). The GAM is a social-cognitive model that includes situational, individual, and biological factors that interact to produce a variety of cognitive, emotional, physiological and behavioural outcomes (Anderson & Bushman, 2002; Anderson & Carnagey, 2004). However, in the updated version of the earlier model (Anderson & Bushman, 2002), the "affective" part of the general affective aggression model was discarded due to the new and broadening definitions of the proximate and ultimate goals of aggression, as clarified in Bushman and Anderson (2001). Their approach draws heavily on recent work in the development and use of knowledge-structures for perception, interpretation, decision-making, and action (Bargh, Chen, & Burrows, 1996; Fiske & Taylor, 1991; Wegner & Bargh, 1998). The key ideas in this model include the notion that knowledge structures develop from experience, influence perception at multiple levels, and form basic visual patterns leading to complex behavioural sequences that become automatized with use. Such structures contain affective states, beliefs, and behavioural programs that guide interpretation and behavioural responses. In particular, Anderson and Bushman (2002) cite three important subtypes of knowledge to explain aggression: perceptual schemata - which are used to identify everyday phenomena as well as complex social events; person schemata - which include beliefs about particular persons or groups; and behavioural scripts - which contain information about how people behave under varying circumstances.

Generally, in any act of aggression, there are two basic classes of input variable: individual and situational. Individual factors may include variations in terms of personality traits, attitudes, and genetic predisposition. For instance, there are particular types of people who have a higher tendency to act aggressively, mainly due to their susceptibility to hostile attribution, perception, and expectation biases (e.g., Crick & Dodge, 1996). Interestingly, some recent findings on this issue appear to run counter to a long-held traditional belief. Narcissism, which is an inflated and unstable type of high self-esteem (not low self-esteem), produces high aggression. As a consequence, individuals of this type are predisposed to anger and are highly aggressive when their high self-appraisals are threatened (Baumeister et al., 1996; Bushman & Baumeister, 1998). Turning to situational factors, these include stimuli such as the presence of provocations (e.g., insults, slights) or aggressive cues (e.g., the presence of guns – the weapon effect). In relation to the weapon effect, it has been claimed that pictures and words related to weapons automatically prime aggressive thoughts (Anderson, Benjamin, & Bartholow, 1998). It also appears that aggression increases as a result of cognitive cueing effects produced by exposure to violent media (e.g., Bushman, 1998).

These input variables interact to prime three routes to aggression: cognition (e.g., hostile thoughts, scripts; Huesmann, 1998), affective (e.g., pain, hostile feelings, expressive motor responses), and arousal (i.e., physiological and psychological). Variables intersecting these routes sequentially influence a person's immediate appraisal of the situation. This immediate appraisal strikes automatically (spontaneous and outside of consciousness) and yields inferences. Depending on the circumstances, the inference may include an interpretation of the situation (e.g., the potential for harm,

malicious intentions of the target person) and an interpretation and experience of affect (e.g., anger at target person). For instance, consider the case of a target person who already had been having a hostile thought, and is then bumped into by another person. The target would perceive this other person as being aggressive towards him. However, if it occurs in a crowded room, then the interpretation would be an accidental consequence of the crowded situation. Aggressive appraisal may typically include anger-related affect, a retaliation goal, and a specific intention to carry out the goal (Anderson & Bushman, 2002). Once an immediate appraisal of the situation has been made, reappraisal may occur, depending on the availability of sufficient resources (i.e., time and cognitive capacity). Reappraisal is a thoughtful, effortful, and conscious process in which the individual considers additional information concerning the situation, alternative behavioural responses to the situation, feasibility of the various alternatives, and the consequences of carrying out the various alternative behavioural responses. Since reappraisal is a demanding process, it is initiated only when the individual has sufficient cognitive resources available. The immediate appraisal and reappraisal stages are analogous to the stages of social inference described by Anderson, Krull, and Weiner (1996) and Krull and Erickson (1995). At the final stage in the model, there is an impulsive action result (i.e., the behavioural outcome) in which the individual may act in an aggressive or non-aggressive manner, subject to the content of the immediate appraisal.

1.2.2 Multidimensional Self-Esteem: Conceptualisations and Variations

There are several factors that contribute to the confusion surrounding self-esteem, one of which is the lack of standardisation in the way that this concept has been defined over the years. Among the issues raised are whether self-esteem should be recognized

as a trait or a state, whether it is based on affective or cognitive processes, whether it is global or domain specific, and whether implicit and explicit self-esteem are two distinct forms (Mruk, 2006; Zeigler-Hill & Jordan, 2010). However, the issues of central importance to the present thesis involve the questions of whether self-esteem is best understood as a global or a domain specific construct, and whether implicit and explicit self-esteem are two distinct types of self-esteem.

1.2.2.1 Definitions of Self-Esteem

The study of self-esteem was initiated by the first American psychologist, William James (1890/1983), who clarified the definition of self-esteem (e.g., Coopersmith, 1967, 1981; Rosenberg, 1965). In particular, he proposed two basic aspects of self, which are "I" and "Me". The "I" resembles an actor, who organises and interprets experiences. The "Me" is comparable to the object of one's experiences, which contains feelings, evaluations, and attitudes. Whilst the term "self-esteem" has been utilised domestically throughout American society (Baumeister, Campbell, Krueger, & Vohs, 2003), few are able to define it precisely (Guindon, 2002). This may be ascribed to the fact that there has been a lack of consensus – there is no single widely-accepted definition of self-esteem that exists among experts (Kaplan, 1995). According to Buss (1995), the content of the self-esteem concept can be centralised through two definitions: self-love (i.e., positive feelings towards oneself) and self-confidence. Johnson (1997, p. 8) defined self-esteem as "the degree of worth, value, respect and love that the individual may hold for himself as a human being in the world". In support, Buss (1995, p. 206) states that a healthy self-esteem comprises not only of seeing oneself in as positive a light as possible, or as perfect, but also of feeling intrinsically worthwhile, or accepting oneself as one. Although there are many

distinctions made between different component categories of self-esteem, it is apparent that the most clear-cut definition of self-esteem is "an evaluation of oneself" (e.g., Zeigler-Hill & Jordan, 2010, p. 392). Nevertheless, the precise character of this evaluation remains unclear. Multiple and complex definitions of self-esteem continue to dominate research and theory, in spite of the widespread demand for uniformity (Kernis, 2006). For instance, Mruk (2006) organised the obtainable throughout the years into three distinct categories: worthiness, competence, and a combination of worthiness and competence.

1.2.2.2 Self-Esteem Dimension: Global versus Domain Specific

Until recently, research on self-esteem had been almost exclusively focused on self-esteem as a global and stable part of one's self-concept. However, self-esteem is also commonly utilised in other distinct ways, either referring to global self-esteem, feelings of self-worth, or self-evaluations (Brown & Marshall, 2006). Global self-esteem, therefore, refers to one's overall level of self-esteem. It is revealed through the ways in which people generally feel about themselves across time and situations (Brown, Dutton, & Cook, 2001), and is relatively stable throughout adulthood (Neiss, Sedikides, & Stevenson, 2002). Although most experts applied this conceptualization of self-esteem (Kernis, 2003), the exact nature of the definitions of self-evaluations may still vary.

In conjunction with those various concepts, distinctions have been made between global and domain-specific self-esteem (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995; Rosenberg, 1965), indicating the way that individuals evaluate their abilities and attributes (Brown & Marshall, 2006). Global self-esteem is "the positivity

of the person's self-evaluation" (Baumeister, 1998, p. 694). At a global level, self-esteem is used to describe global perceptions of one's self-worth as a person (Rosenberg, 1965). However, it would be more meaningful for self-esteem to be understood as a dimensional construct (e.g., Kirkpatrick & Ellis, 2001; Tafarodi & Milne, 2002) that describes self-satisfaction in specific areas such as academic achievement and physical appearance. Moreover, self-esteem may differ substantially from one domain to another.

In an imperative review, global self-esteem was found to be related to happiness, but had limited gains for certain behaviour outcomes (Baumeister, Campbell, Krueger, & Vohs, 2003). In contrast, domain-specific measures of self-esteem are constantly associated with performance within that domain, seemingly in a mutual process in which each causes the other (Marsh & Craven, 2006). These results are explained by the specificity-matching hypothesis, which contends that the most meaningful links are between attitudes and behaviour within the same domain (Gentile et al., 2009). A number of scholars have even supported the notion that self-esteem be treated as a dimensional, rather than global construct (e.g., Ostrowsky, 2010). On the basis of domain specificity, for the purposes of this investigation, it would be speculated that functionally distinct domains of self-esteem would differentially predict aggression (Webster & Kirkpatrick, 2006).

In relation to global self-esteem, Robins and Trzesniewski (2005) generally describes development of self-esteem across the lifespan. According to them, young children have reasonably high self-esteem, which gradually declines over the course of childhood due to their unrealistically positive self-views. As children develop

cognitively, they begin to centre their self-evaluations on external feedback and social comparisons, hence forming a more balanced and accurate appraisal of life perspectives and personal characteristics. Self-esteem continues to decline during adolescence as they attributed the decline to body image and other problems associated with puberty, capacity to think abstractly about one's self and the future, and encountering expectations academically and socially. Self-esteem increases gradually throughout adulthood, peaking sometime around the late 60s. Over the course of adulthood, individuals increasingly occupy positions of power and status, which might promote feelings of self-worth. Self-esteem begins to drop in old age which may be due to the dramatic convergence of changes that occur in old age, such as retirement, the loss of a spouse, and health problems.

There is a time where levels of global self-esteem are most likely to shift. Arnett (2000) postulates the period between adolescence and adulthood (i.e., the period between ages 18 and 25) as the phase of "emerging adulthood". Cross-sectional data reveal a decrease in adolescence and a gradual increase from the 20s to the 30s (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). Emerging adulthood is a developmental process of becoming an adult that normally demands an interrogation of one's identity and subsequent reformulation of conceptions and evaluations of the self. During this time, one will enhance their psychological well-being by developing long-term social skills, including those critical for self-dependence, career orientation and relationship maintenance. However, individual trajectories may be influenced by specific factors such as individual and family characteristics, as well as changes in role. Over time, Galambos, Barker, and Krahn (2006) suggest that stronger marriage and social support were associated with increased psychological well-being, whereas

longer periods of unemployment were connected with higher depression and lower self-esteem.

Further, Chung et al. (2014) examined the development of self-esteem in a sample of emerging adults followed longitudinally over 4 years of college. Most have expected changes in their self-esteem during their final year in college. Individuals who obtained good grades prone to show larger increases in self-esteem. In contrast, individuals who entered college with unrealistically high expectations about their academic achievement tended to demonstrate smaller increases in self-esteem, despite beginning college with relatively high self-esteem. The overall findings support the perspective that self-esteem, like other personality characteristics, can change in systematic ways while exhibiting continuity over time.

1.2.2.3 Self-Esteem Dimension: Explicit versus Implicit Self-Esteem

Conventional approaches imply that some individuals with positive self-views have self-doubt and insecurity embedded at lower levels of consciousness. This proposal, however, remains speculative, and is difficult to test, especially when it involves a person talking about themselves, including their behaviour, feelings, and thoughts. Self-report measures rely on the person being honest and accurate when reporting their views (Snowden, Craig, & Gray, 2011), as well as being consciously able to access all aspects of their self-esteem. Thus, self-esteem, as traditionally conceptualised, can be considered to be *explicit,* and refers to the conscious and deliberately reasoned evaluations of the self. Explicit self-esteem can be measured by traditional self-report questionnaires. This method is widely accepted as an appropriate means of assessing an individual‘s subjective experience or view of themselves (Zeigler-Hill & Jordan,

2010), in which the outcomes of measurement procedures allow the participant to deliberate (Snowden et al., 2011). Thus, when the participant has full and conscious cognitive access to the cognitions elicited by such techniques, they could report them with relative ease upon request.

Self-report measures of self-esteem should measure an individual's self-view based on how that person wants to be perceived, rather than as a pure measure of self-esteem (Salmivalli, 2001). For this reason, some researchers show a tendency to look for patterns of deliberate dissimulation (Paulhus, 1984, 1988). Furthermore, self-esteem questionnaires are very sensitive to various forms of response bias and related psychological defences (Salmivalli, 2001). Evidence has shown that self-report measures of self-esteem were associated with *impression management* (Zeigler-Hill & Jordan, 2010), as some individuals tend to provide responses in order to present a particular image or to appear more socially desirable. There is also the possibility that some individuals are not aware of all aspects of their self-esteem. This leads them to being deceptive by presenting a positive self-image that they believe is true. However, this does not reflect beliefs at lower levels of consciousness (Zeigler-Hill & Jordan, 2010).

Self-report measures of self-esteem alone are clearly insufficient, when the desired information is not obtainable. Thus, an examination of other aspects of personality to which target individuals themselves are presumed to have little or no introspective access, or which they are strongly motivated to deny, is required. When attempting to evaluate self-esteem, researchers could either employ a direct measurement procedure,

such as a multi-item Likert scale where the participants rate themselves on a list of associated qualities, or an indirect measurement procedure.

In response to the aforementioned issue, self-theorists began exploring the possibility that self-evaluations can affect behaviour in a non-declarative, automatic manner (e.g., Epstein & Morling, 1995; Greenwald & Banaji, 1995). Implicit self-esteem is generally defined as highly efficient evaluations of self that occur unintentionally and outside awareness (e.g., Farnham, Greenwald, & Banaji, 1999; Greenwald & Banaji, 1995). Hence, attitudes toward the self may be activated automatically, with minimum effort or conscious guidance, as in the case of attitudes toward many other objects in our social environments (Bargh, Chaiken, Raymond, & Hymes, 1996).

There are a number of indirect assessment techniques that measure implicit self-esteem. These involve recording responses that are not apparently related to self-evaluations, and may not easily be controlled by the participants (Bosson, Swann, & Pennebaker, 2000; Farnham et al., 1999). For instance, in a reaction time-task such as the Implicit Association Test (IAT; Greenwald, Mcghee, & Schwartz, 1998), self-esteem could be inferred from the speed with which words are correctly categorised as positive or negative following priming with self-referential concepts such as ‘‘me’’ and ‘‘myself’’; e.g., see Spalding & Hardin, 1999). The outcomes of measurement procedures are elicited in an automatic mode, and participants may thus be less conscious of the cognitions produced by the methods (Moors, Spruyt, & De Houwer, 2010). Indeed, such measures assessing self-evaluations at this level of awareness may not be captured by self-report measures such as questionnaires and interviews. Moreover, Greenwald and Banaji (1995) stated that the existence of implicit self-

esteem responded to as the introspectively unidentified (or inaccurately identified) effect of the self-attitude on evaluation of self-associated and self-dissociated objects. On the other hand, Zeigler-Hill and Jordan (2010, p. 394) have addressed the lack of consensus as to whether implicit self-esteem is non-conscious. Hence, they proposed that implicit self-esteem may be best defined as "evaluations that are cognitively associated with the self and activated in response to self-relevant stimuli but that are not necessarily endorsed as valid reflections of how one feels about oneself".

As interests in implicit self-esteem have grown, researchers have begun to query whether measures of implicit self-esteem are related to traditional measures of explicit self-esteem. The implicit measures have been found to a have weak correlation with the measures of explicit self-esteem (for a review see Koole & Pelham, 2003), which suggests that these measures evaluate distinct types of self-esteem, or else it would be pointless to measure what it is designed to measure (Bosson et al., 2000; Farnham et al., 1999). The low correlation between explicit and implicit self-esteem may presumably be due to the limited introspective access to the automatic associations about the self that most people possess. Knowing an individual's level of explicit self-esteem tells others virtually nothing about the individual's level of implicit self-esteem. Such that many individuals who report positive self-views may also possess relatively negative implicit self-views. Thus, many researchers have acknowledged implicit belief systems such as those that operate outside of conscious awareness (Greenwald & Banaji, 1995). Briefly, both explicit and implicit measures incorporate a wide range of mental processes, including the attitudes and cognitions that are of interest to this investigation. It is possible that individuals possess cognitions that vary in their degree of cognitive access - some cognitive processes and attitudes will be

explicit and available to conscious thought, whereas others will be beyond conscious access and thus, implicit in nature.

1.2.2.4 Stability of Self-Esteem

Although initially the majority of empirical and theoretical work has dichotomised self-esteem into either low or high levels (Kernis & Goldman, 2006), more recently, it has become increasingly apparent that many variations arise within these categories (Mruk, 2006). In addition to levels of self-esteem, it has been argued that the stability of self-esteem should also be taken into account when examining aggressive and violent behaviour. The conceptualization of self-esteem as a multidimensional construct has developed from the controversy that questions the contradictory views of high self-esteem. High self-esteem was formerly seen as a highly valued term that associates with positive characteristics. More recently, some authors have indicated that high self-esteem is not always a favourable characteristic, generating a considerable amount of confusion (Baumeister et al., 2003; Mruk, 2006). One possibility is that high self-esteem, as traditionally conceptualised and measured, is qualitatively different from other types (e.g., Coopersmith, 1959; Deci & Ryan, 1995; Kernis & Paradise, 2002). Likewise, high self-esteem may not have the same meaning for those who report to have it. Some positive self-views are secure and confidently held, whereas others positive self-views are fragile and vulnerable to threat, leading those individuals to enthusiastically enhance and protect their esteem.

With regard to these suggestions, it has been demonstrated that unstable self-esteem could lead to a greater sensitivity to negative evaluations from others, and may in turn cause violent retaliation (Ostrowsky, 2010). It has also been found that a risk factor

for attitudinal aggression in men is either low self-esteem or high self-esteem instability, whilst among women, it is the combination of instability for both low self-esteem and high self-esteem (Webster et al., 2007). In addition, Boden, Fergusson, and Horwood (2007) discovered that unstable high self-esteem is related to self-reported violent offending based on a longitudinal data from a New Zealand birth cohort, which provides further support for the notion that instability of self-esteem may be linked to aggression.

The above views have encouraged researchers to utilize more sophisticated strategies in an effort to better understand the qualitative differences among individuals with high self-esteem (Crocker & Wolfe, 2001; Deci & Ryan, 1995; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; Marsh & Craven, 2006; Tafarodi & Swann, 2001). It is believed that contradictory views of high self-esteem may be reconciled by more recent research findings indicating there are various subsets of individuals with high self-esteem, some with more psychologically healthy forms than others (Jordan et al., 2003). The notion that the category of people with high self-esteem is composed of individuals whose self-opinions differ in important ways has been forwarded as the "heterogeneity" of self-esteem (Baumeister et al., 2003, p. 5).

1.2.2.5 Heterogeneity of High Self-Esteem

Secure Self-Esteem versus Fragile Self-Esteem.

Heterogeneity of high self-esteem has been assumed on the basis of the fluctuations of an individual's feeling of self-worth across time and situations (Kernis, 2003). Research using repeated measures of self-esteem implies that the rise and fall of individual experiences may vary in terms of magnitude and frequency (Greenier,

Kernis, & Waschull, 1995). As such, some experience a dramatic shift (i.e., from feeling very positively or very negatively about themselves), whereas others experience more insignificant fluctuations (Kernis & Goldman, 2006).

The vast majority of researchers have used the terms secure and fragile to distinguish individuals with unhealthy and healthy high self-esteem (Baumeister et al., 2003; Kernis & Paradise, 2002; Kernis, 2003). Stable and secure high self-esteem is characterised by positive feelings of self-worth that are unaltered by daily evaluative experiences (Greenier et al., 1999) and is associated with positive psychological adjustment and well-being (Kernis, 2003). Individuals with secure self-esteem appreciate and acknowledge themselves and their imperfections, and therefore have no need for continual validation (Kernis, 2003). It has been suggested that secure self-esteem is genuine (i.e., open to accepting self-weaknesses), may be either conscious as well as unconscious (i.e., explicit and implicit), does not rely on contingencies, and is stable across time and situations (Kernis & Goldman, 2006; Kernis & Paradise, 2002; Kernis, 2003). In contrast, the term fragile self-esteem is based on the recognition that high self-esteem can reflect positive feelings of self-worth that are vulnerable to threats (Kernis, 2003). Fragile and vulnerable self-esteem are highly dependent on evaluative events (Greenier et al., 1999). These individuals are more likely to engage in self-protective or self-enhancement strategies (Baumeister et al., 1996; Kernis, 2003).

Genuine versus Defensive Self-Esteem

There are a number of theoretical perspectives converging on the notion that some high self-esteem individuals may be more defensive than others. According to Harder

(1984, p. 33), there are a subset of high self-esteem adolescents and men who demonstrated "compulsively confident, boastful, aggressive, and defensive self-esteem". Some individuals possess highly positive self-evaluations as part of a defensive reaction intended to prevent conscious awareness of objectively low status (Coopersmith, 1959). Similarly, some individuals have an excessively positive sense of self-confidence and superiority, which protects the ego from an underlying "usually unconscious" sense of self-doubt and inadequacy (Harder, 1984, p. 27).

Further, Schneider and Turkat (1975) suggested that there are least two different kinds of people who hold high self-esteem based on their level of defensiveness. On the one hand, there are individuals with genuine high self-esteem, who feel less affected by failure, as it is not particularly threatening to them. It is expected that individuals with more securely and confidently held self-esteem are prone to ignore failure or try to make improvements rather than reject negative evaluations (Schneider & Turkat, 1975). On the other hand, there are people with a defensive style of self-esteem, who were thought to have a particularly vulnerable self-esteem. This leads them to promote and protect themselves (Jordan et al., 2003), by actively guarding against failure and downplaying its importance when it occurred (Schneider & Turkat, 1975).

Individuals with genuine self-esteem are thought to have true positive feelings toward themselves (Kernis, 2003), whilst defensive high self-esteem individuals are thought to falsify themselves when reporting self-esteem, due to a tendency to deny painful or embarrassing negative self-feelings (Schneider & Turkat, 1975). Consequently, it has become a challenge to measure self-esteem, as high scores generated on self-esteem measures may either capture positive self-evaluations that characterise authentic self-

esteem, or may reflect a tendency to disclose negative traits and feelings (Paulhus, 1991). In order to address this issue, defensive and genuine self-esteem have been segregated through the measures of socially desirable responding that are designed to evaluate a high need for approval (e.g., Crowne-Marlowe Social Desirability Scale; Crowne & Marlowe, 1960; Kernis, 2003), or through the measures of self-presentation bias that are designed to tap into the tendency to avoid noticing or resist disclosing personal negative traits or feelings (Paulhus, 1991). Therefore, those with genuine self-esteem score high only on self-esteem measures, whereas those with defensive high self-esteem score high on both measures of self-esteem and self-preservation bias and/or socially desirable responding (Kernis, 2003).

In support of this perspective, it has been suggested that defensive high self-esteem individuals are predominantly sensitive to negative feedback and being defensive after an ego threat (Lambird & Mann, 2006). They are also characterised by having a stronger need for approval in response to failure (Schneider & Turkat, 1975), dislike those who provide them with negative feedback (Hewitt & Goldman, 1974), and may also exhibit lower aspirations for success once they have failed (Lobel & Teiber, 1994). Hence, it can be concluded that individuals with defensive high self-esteem present positive self-views to themselves and others, although these positive self-views are not strong enough to endure negative criticism, and thus these individuals behave in an outwardly defensive manner (Lambird & Mann, 2006).

Another way to distinguish between healthy versus unhealthy high self-esteem is by taking into account measures of narcissism (Baumeister et al., 2003). Moreover,

understanding the conceptualization of narcissism helps in distinguishing narcissism from genuine high self-esteem.

1.2.3 Narcissism: Conceptualisations and Variations

There is a lack of consensus surrounding the clinical and social-personality (i.e., subclinical)[4] conceptualisations of narcissism (Miller & Campbell, 2008). According to the social-personality domain, which is the main focus in this research, narcissism may be adaptive in certain ways (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), or at least a compromise between positive and negative consequences of self (Morf & Rhodewalt, 2001). The commonality of both clinical and social-personality conceptualisations of narcissism, however, is the tendency to use destructive style. Based on the cognitive-affective processing model (Morf & Rhodewalt, 2001), narcissism should be perceived as a dynamic set of personal, cognitive, and affective self-regulatory processes motivated on self-maintenance and construction.

1.2.3.1 Definitions

Narcissism denotes excessive self-regard, grandiosity, and exhibitionism in the absence of genuine feelings for others. The American Psychiatric Association (APA; 2000) characterised narcissists by their highly inflated evaluations of the self, elevated sense of entitlement, need for admiration, and low empathy toward others, as they seek to maintain, protect, and promote an impossibly high self-standard (Morf & Rhodewalt, 2001). Most recently, *Diagnostic and Statistical Manual of Mental*

[4] Subclinical narcissism also refers to the normal or everyday narcissism. The narcissistic personality traits are prevalent in general population, and therefore has also been referred to as 'trait narcissism' (Sedikides et al., 2004).

Disorders-5 (DSM-5; APA, 2013) defines narcissistic personality disorder (NPD) as "a pervasive pattern of grandiosity (in fantasy and behaviour), need for admiration, and lack of empathy, beginning by early adulthood and present in a variety of contexts" (p. 645). Though the designation of narcissism (e.g., entitlement, fantasies of success, a desire for admiration) is related to the clinical description of NPD, the personality feature of narcissism exists on a continuum that ranges from mild to extremely maladaptive manifestations (Miller & Campbell, 2008; Raskin & Hall, 1979), hence is often treated as a personality trait, rather than a personality disorder (Sedikides et al., 2004).

The aetiology of narcissism is initially rooted in the psychoanalytic theory that suggests narcissism as being deep-seated in fragile self-esteem or vulnerability to shame (e.g., Emmons, 1987; Morrison, 1989). Based on this conceptualisation, grandiosity masks inner feelings of inadequacy. The underpinning sense of inadequacy that relates to a general lack of confidence creates a fixation on maintaining positive self-concepts. Nevertheless, the 'picture' of narcissism is actually complex. Such that narcissists' tendency to engage in self-enhancement is coherent with self-assuredness, but seems to be in contrast with anxiety. However, their tendency to engage in self-protection through gaining positive feedback is actually reflective of anxiety and insecurity (Barry & Malkin, 2010). Hence, this proves that narcissism may be underpinned by relatively automatic negative self-views (Jordan et al., 2003) that are vulnerable to unfavourable feedback from others.

In debating on the similarities and differences between self-esteem and narcissism, Donnellan et al. (2005) claim that narcissism may be "an exaggerated form of high

self-esteem, a particular facet of self-esteem, a highly contingent and unstable form of self-esteem, a need to feel superior to others, or a defensive shell of inflated self-esteem that compensates for unconscious feelings of inadequacy" (p. 334).

1.2.3.2 The Association of Self-Esteem and Narcissism

Not all narcissists have the same level of self-esteem. Empirical work has yielded rather uncertain findings concerning the positive association between self-esteem and narcissism (Emmons, 1987; Raskin, Novacek, & Hogan, 1991; Raskin & Terry, 1988), as well as inverse association between self-esteem and narcissism (e.g., Rose, 2002; Watson, Hickman, & Morris, 1996). The main issue affecting the study of self-esteem and narcissism is the possibility of distinct self-esteem narcissism subtypes. Although researchers have speculated about the presence of high and low self-esteem narcissism presentations, empirical work, however, is still lacking. These subtypes would produce similar symptoms of narcissism, such as grandiose disposition, yet are differentiated in terms of their emotional, cognitive, and social functioning (Cooper & Ronningstam, 1992). This came to the suggestion that there may in fact be "two faces of narcissism" (Wink 1991). Vulnerability-sensitivity is associated with introversion, defensiveness, and anxiety, whereas grandiosity-exhibitionism is associated with extraversion, self-assurance, and aggression.

Narcissism embedded in low self-esteem, also known as covert narcissists (Bushman et al., 2009; Wink, 1991), is essentially related to emotional over-reactivity and emotional distress. Cognitively, this form of narcissism is characterised by hypervigilance to negative evaluations. These individuals have been described as socially avoidant individuals who are self-absorbed yet shy and introverted. They

engage in admiration-seeking behaviours to cope with underlying insecurity, and to satisfy a grandiose sense of self-importance. If the individuals fail to meet their demands for admiration, they will be predisposed to experience emotional distress.

Conversely, different emotional, cognitive, and social patterns of behaviour have been suggested for narcissism embedded in high self-esteem (Dickinson & Pincus, 2003; Rose, 2002), which is also known as overt narcissists (Bushman et al., 2009; Wink, 1991). This form of narcissism is fundamentally linked to emotional under-reactivity, and thus renders the individual less susceptible to emotional distress. Cognitively, narcissism with high self-esteem is not related to hypervigilance to negative evaluation, as these individuals are highly confident and secure in their social standing. They are described as self-assured extraverts who have a dominant, antisocial, and aggressive interpersonal orientation (Bushman et al., 2009) given there is lack of sensitivity to emotional displays that generally restrain such behaviour. It may be that these individuals view aggressive behaviours as a means to overcome obstacles in order to gain what is deserved. According to Papps and O'Carroll (1998), the combination of impulsivity, the constant maintenance of their grandiose self-views, and intense experience of anger makes the narcissist predisposed to aggressive behaviour more than the non-narcissistic and those of low or high self-esteem individuals in response to a perceived slight.

Narcissists persistently attempt to strengthen their positive self-feelings through strategies such as self-promotion, attributional reframing, and derogation of others (Morf & Rhodewalt, 2001). It has been claimed that their self-esteem may be described as fragile due to them constantly seeking to validate their self-worth to themselves and

others, thus ensuring that it is always at stake (Kernis, 2003). Because narcissists have a continual quest to validate their self-worth to themselves and others, their self-esteem may be described as fragile as it is always at stake (Kernis, 2003). Individuals high in narcissism and self-esteem tend to have unstable self-esteem (Rhodewalt, Madrian, & Cheney, 1998) and are more likely to act defensively (Bushman & Baumeister, 1998; Paulhus, 1998). Therefore, individuals with high self-esteem and low levels of narcissism are presumed to have healthier self-esteem, whereas individuals with high self-esteem and co-occurring narcissism are thought to have unhealthy self- esteem (Baumeister et al., 2003; Sedikides et al., 2004).

In looking at the gender differences, there has been an attempt to a meta-analytic review on levels of narcissism (Grijalva, Newman, Tay, Donnellan, & Harms, 2015). Men are more narcissistic than women across various measures and settings, and stability over time. Across 355 studies, Grijalva et al. (2015) found that men tend to be more narcissistic than women and this remained constant in college student cohorts over time (from 1990 to 2013), and across different age groups. They also revealed that gender difference is determined by Exploitative / Entitlement, Leadership /Authority, and Grandiose / Exhibitionism factors of the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). However, they found no gender difference in vulnerable narcissism, which is a less-studied form of narcissism that is manifested by low self-esteem, neuroticism, and introversion.

1.2.3.3 Adaptive versus Maladaptive Narcissism

Numerous studies have shown evidence that narcissism is connected to high intrapersonal functioning that can inflict long-term and even societal costs (e.g.,

Hepper, Hart, & Sedikides, 2014; Sedikides et al., 2004). However, only particular features of narcissism are associated with behavioural maladjustment. An approach to evaluate narcissism as a multidimensional construct (e.g., Barry, Frick, Adler, & Grafeman, 2007) is based on the commonly used measure of narcissism - the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979; Raskin & Terry, 1988). This measure has been analysed into seven factors;- Authority, Self-sufficiency, Superiority, Exhibitionism, Exploitativeness, Vanity, and Entitlement. Recently, conceptualisations of narcissism emphasize on the significance of the distinction the between adaptive or maladaptive forms (e.g., Barry, Grafeman, Adler, & Pickard, 2007; Barry et al., 2007; Barry & Malkin, 2010). These two components present the intrapersonal functions of the narcissists, which is comparative to social desirability (Hepper et al., 2014). NPI in adult research is primarily an assessment of "grandiose narcissism" rather than "vulnerability narcissism", and both adaptive and maladaptive components are not reflective of vulnerability or pathology.

The adaptive components of narcissism evaluates an individual's sense of authority or leadership, also self-sufficiency. This component is considered adaptive as it relates to qualities such as assertiveness, independence, self-confidence, and have little link to social maladjustment (Raskin & Terry, 1988). High levels of adaptive narcissism may also lead some individuals to choose vocations that better gratify needs for social attention, prestige, and status (Hill & Yousey, 1998). Conversely, maladaptive narcissism includes an individual feelings of entitlement, willingness to exploit others, and exhibitionism. This component is thought of as relatively maladaptive based on their associations with poor social adjustment such as hostility and difficulty delaying gratification (Barry & Malkin, 2010; Raskin & Terry, 1988), as well as causing

socially harmful consequences (Barry, Frick, et al., 2007; Hepper, Hart, Meek, Cisek, & Sedikides, 2014). In general, maladaptive narcissism shows stronger associations with negative outcome variables in both youth and adults (Barry et al. 2007; Raskin and Terry 1988; Washburn et al. 2004).

Campbell and Foster (2007) particularly identify that entitlement and exploitativeness as the most socially 'toxic' ingredients of narcissism, which can closely be associated with criminality. The component of entitlement is a trait that makes a person believes that they deserve best. It makes them concentrate on the incongruity of what they desire and what they actually possess (Konrath, Corneille, Bushman, & Luminet, 2014). Exploitativeness, on the other hand, is the component that motivates a person to manipulate others and treating them to simplify own desires. A highly exploitative person may discover that controlling others and taking advantage of them as easy (Konrath et al., 2014; Raskin & Terry, 1988). These individuals have non-reciprocal interactions, such that they only perceive others as an opportunity or a way to achieve their personal goals. Hence, exploitativeness may be a catalyst that motivates entitled people to attain what they "deserve". Manipulating behaviour is socially undesirable, therefore, it is the sense of entitlement that might lead a person to go against the law (Hepper et al., 2014).

In a longitudinal study among a community sample of children and adolescents, Barry, Frick, Adler, and Grafeman (2007) distinguished the utility between adaptive and maladaptive narcissism for predicting later delinquency. Maladaptive narcissism is significantly related to delinquency even after taking into account other intra personal risk factors for conduct problems (i.e., callous-unemotional traits, impulsivity),

parenting practices, and when controlling for earlier conduct problems. In terms of parenting practice, delinquency occurs in the absence of positive parenting practices for adaptive narcissism. While for maladaptive narcissism, delinquency is predicted by the presence of negative parenting. Additionally, Washburn, McMahon, King, Reinecke, and Silver (2004) found that the maladaptive narcissism features of exploitativeness and exhibitionism were associated with proactive aggression and internalizing symptoms in early adolescents.

1.3 The Current Research

The overarching aim of the current research was to further examine the relationship between self-esteem and aggression. In particular, this cross-sectional design study attempted to determine whether global self-esteem and the related constructs were predictive of different types of aggression based on the issues being discussed earlier.

At present, research on self-esteem and aggression has produced inconsistent findings since the actual type of aggressive act has varied across studies. Given that there is no perfect measure of aggression, and that the vast majority of authors have used a single definition of aggression, the current thesis chose to use the distinctions between reactive and proactive aggression (Dodge & Coie, 1987). It appears that these two types of aggression may be crucial in understanding the true relationship between self-esteem and aggression, for a number of reasons. These are based on the individuals' ability to perform aggressive acts (Crick & Dodge, 1996), social interactions (e.g., Dodge & Coie, 1987; Raine et al., 2006), roots of the distinction (Dodge, 1991), attributional biases (Crick & Dodge, 1996; Dodge & Coie, 1987; Dodge, 1991; Fontaine, 2007), and the links with self-esteem related constructs (Fontaine, 2007;

Vitaro et al., 2006). Therefore, it is plausible that the relationship between self-esteem and aggression rely on these forms of aggression. Moreover, support for the widespread use of the reactive-proactive distinctions has emerged from empirical work conducted in the fields of social cognition, psychophysiology, neurobiology, neurocognition, clinical psychology and psychiatry (Fontaine, 2007).

In order to understand the link between self-esteem and aggression, it is essential to consider constructs that are related to, but distinct from, self-esteem. One view suggests that narcissism may be a subcategory of self-esteem (Barry et al., 2007). Hence, this thesis also took into account narcissism that is associated with high, rather than low self-esteem. It is possible that the findings will allow us to highlight some of the disparities between global and domain-specific constructs. The idea that self-esteem may appear high, but is actually covering for low self-esteem is a very complex one, due to the problem of measuring something that people wish to be concealed (Walker & Bright, 2009). Moreover, there is some evidence that different dimensions of self-esteem can have unique effects on aggressive behaviour (e.g., Kirkpatrick et al., 2002). For instance, narcissism, which is also one of the psychopathic traits, was found to be related to reactive and proactive aggression (e.g., Barry, Grafeman, Adler, & Pickard, 2007; Barry et al., 2007; Fite, Stoppelbein, & Greening, 2009). Therefore, this thesis attempted to appreciate the possible dimensions of self-esteem and their unique relations with aggressive behaviour. Consideration of narcissism in combination with self-esteem may provide a clearer picture for identifying those at risk of aggression. Moreover, more specific dimensions of narcissism namely adaptive and maladaptive narcissism have also been included in this investigation using the same measure of narcissism.

Whilst evidence suggests that there are automatic aspects of self-esteem that are apparently inaccessible to conscious introspection, both explicit (i.e., self-report questionnaires) and implicit (i.e., Implicit Association Test - IAT) measures of self-esteem were employed in this investigation. This approach was designed to tap into and acknowledge the different processes involved in the evaluation of self. Whilst the use of implicit measures of self-esteem may be more widespread within the social-cognitive area (e.g., Greenwald et al., 1998), research in relation to its prospective role in aggression is still in its infancy. Given the lack of information concerning the use of this measure, this thesis attempts to explore whether the current version of the self-esteem IAT that has been developed by our team would provide more predictive evidence towards different forms of aggression. In order to provide a comprehensive understanding of the impact of self-esteem on aggressive behaviour, this thesis was not limited to the individual study of explicit and implicit self-esteem, but also considers the interaction between these two aspects of self-evaluation (Jordan et al., 2003). Hence, the use of both explicit and implicit measures of self-esteem is seemingly a way to minimise and reduce the social desirability effects in this investigation.

In spite of these aforementioned issues, research has also demonstrated the importance of gender differences (e.g., Baron, 2007; Baumeister et al., 2000; Ostrowsky, 2010). In particular, gender was found to be a suppressor and moderator of the effects of self-esteem and narcissism on aggression (Webster, 2006). Although some studies did not support the notion that gender influences this relationship, the current thesis examined gender differences in order to identify the gender identity-roles that may be relevant for these relationships. Given the discrepant findings in the literature, and the fact that

many studies on self-esteem, narcissism, and aggression have overlooked possible gender differences (Ostrowsky, 2010), it is clear that an important task for this thesis is to determine more precisely the gender dynamics surrounding the link between self-esteem and aggression. For instance, gender differences in narcissism might help to explain observed gender disparities in these important aggression outcomes (Grijalva et al., 2015).

Further, the generalizability of the studies involved in this area is limited, given that vast majority of studies have used small samples of university students (e.g., Bushman & Baumeister, 1998; Kirkpatrick et al., 2002; Locke, 2009; Perez et al., 2005). The present thesis examines three samples: university students in the UK, university students in Malaysia, and young high-risk adults referred to a charity for homeless people (SOLAS) in the UK. In order to generalise the findings from this investigation to other populations, the current thesis expanded the investigation through the replication of the main study carried out on different cultures (i.e., nationality). Many of the studies have either looked at only Western cultures, whilst others have focused merely on Eastern cultures. Moreover, the vast majority of research on reactive and proactive aggression has been conducted in Western settings. Given that reactive and proactive aggression appear to have distinct antecedents and consequences (Dodge, 1991), it is crucial to also determine whether they reflect a universal pattern of behaviour characteristic of youth across diverse cultural contexts, or if they are specific to Western populations. Thus, the present investigation sought to examine both UK and Malaysian sample populations in order to predict the pattern and predictors of aggressive behaviours. As such, differences in terms of value of individualism versus collectivism were used, as the former represents the Western culture (i.e., UK),

whereas the latter is reflective of the Asian culture (i.e., Malaysian). Previous research also highlights the fact that there are few studies that have been conducted in the forensic setting. Therefore, the current thesis sought further clarification of these relationships by implementing the study in a forensic setting, using a high-risk community sample. The basic findings obtained in the normal population (student samples) were then compared to a higher risk/ vulnerable population using the agency and communion content dimensions of self-esteem, and were examined in terms of how they are predictive of reactive and proactive aggression. Examining this two-factor aggression model across multiple samples would ensure the robustness of the findings in the present thesis.

The objectives of this thesis were to investigate the relationship between self-esteem and aggression, and particularly as to whether this relationship shows any variation of functionality when measured with self-report (explicit) and by using implicit measures of self-esteem. This thesis was also interested in examining whether explicit and implicit self-esteem interacts in predicting different types of aggression. In addition to comparing the levels of aggression reported by samples that represent individualistic and collectivistic cultures, the present thesis also compares the pattern of self-esteem and aggression relationships in these two cultures. Further, this thesis investigates the relationships between the basic content dimensions of self-esteem (i.e., agency and communion) with aggression outcomes. The research questions under investigation in this thesis were:

1. What is the pattern of the relationships between self-esteem (i.e., global/explicit and implicit) and types of aggression?

2. Is narcissism related to types of aggression?
3. Does explicit and implicit self-esteem interact in predicting different types of aggression?
4. Are there any gender differences in the levels of multidimensional self-esteem and types of aggression in these three samples?
5. Does gender have influence in the relationships of self-esteem and aggression?
6. Which culture demonstrates higher levels of aggression?
7. How do different socio-cultural contexts influence the relationship patterns of self-esteem and aggression?

On the basis of theoretical and empirical work, the main hypotheses in the current thesis were:

1. Global (explicit) self-esteem is negatively related to aggression, and to reactive aggression in particular.
2. Narcissism is positively related to aggression, and to proactive aggression.
3. Implicit self-esteem is significantly related to reactive and proactive aggression.
4. There is a significant interaction between levels of explicit and implicit self-esteem in predicting the levels of aggression.
5. The individualistic culture shows greater levels of reactive aggression, but the levels of proactive aggression would be similar across both cultures.
6. There is a significant difference in the pattern of self-esteem and aggression relationship between the individualistic and collectivistic cultures.
7. Agentic self-esteem is related to proactive, but not reactive aggression.

1.4 Thesis Plan

Chapters 2, 3, and 4 are the empirical chapters that discuss the aims, methods, results and conclusions of each specific analysis. Finally, Chapter 5 provides an overall discussion of the current findings and some general conclusions, including strengths and limitations, and their implications for aggression and violence.

CHAPTER 2

MULTIDIMENSIONAL SELF-ESTEEM, NARCISSISM AND AGGRESSION

2.1 Introduction

The possible link between self-esteem and aggression has been controversial. Currently, there appear to be two competing hypotheses, each suggesting that people at different levels of the self-esteem continuum are vulnerable to aggression. Several studies appear to show evidence that low self-esteem is associated with externalising problems, including aggression to others (Donnellan et al., 2005; Trzesniewski et al., 2006; von Collani & Werner, 2005), whilst others have argued that high self-esteem is associated with aggression (Baumeister et al., 1996; Bushman et al., 2009). This apparent contradiction may be resolved by looking at different forms of self-esteem and constructs that are related to self-esteem. A series of studies has shown that different forms of aggression are linked to different aspects of self-esteem (Kirkpatrick et al., 2002; Webster et al., 2007; Webster & Kirkpatrick, 2006). Prominent among these ideas is that an overly inflated view of self-worth, commonly termed "narcissism", is positively related to certain types of aggression (Barry et al., 2007; Bushman & Baumeister, 1998; Fossati, Borroni, Eisenberg, & Maffei, 2010; Maples et al., 2010; Twenge & Campbell, 2003), whilst overall global self-esteem is negatively related to aggression (Donnellan et al., 2005; von Collani & Werner, 2005; Walker & Bright, 2009). Hence, whilst this finding of a link between narcissism and aggression appears to be well established, the relationship between other forms of self-esteem and aggression remains more elusive. These conflicting findings suggest that there may be instability in the levels of self-esteem (e.g., Kernis, Grannemann, & Barclay, 1989), and that the discrepancies between types of self-esteem (explicit and

implicit self-esteem) could lead to different types of aggressive behaviours and traits. Therefore, this chapter will examine the associations between different dimensions of self-esteem and different types and conceptualization of aggression.

2.2 Aggression and Self-Esteem

2.2.1 Low Self-Esteem Leads to Aggression

For decades, the prevailing wisdom has held that low self-esteem predisposes people to a variety of adverse outcomes, including aggression. However, there are actually very few studies that provide direct support for the idea that low self-esteem contributes particularly to aggression (Baumeister et al., 2000). For instance, Walker and Bright (2009) in their systematic reviews of the literature from the last 20 years conclude that the majority favour the link between low self-esteem and violence. In particular, aggressive behaviour occurs through embarrassment and humiliation that in turn elicits anger. Violence is taken to be a 'macho' cover-up response that serves as a protective mechanism against humiliation, hence allowing the perpetrator to express unpleasant feelings associated with threat.

There are a number of studies that have demonstrated a link between low self-esteem and aggressive behaviour in children and adolescents. The relationship between self-esteem and delinquency is typically found to be weak to moderate in the negative direction (Baumeister et al., 2003). Among the relevant studies is a pair of longitudinal field studies conducted by Donnellan et al. (2005) who found that children with low levels of self-esteem reported getting into more delinquent behaviours, including a large number of fights. Further, adolescents with low levels of self-esteem reported

relatively high levels of trait aggression. Trzesniewski et al. (2006) purports that, in comparison to adolescents with high esteem, adolescents with low self-esteem were significantly more likely to be convicted of a violent crime during adulthood, even after controlling for gender, depression, and socioeconomic status. Some authors suggest that low self-esteem was associated with delinquency and aggression, when controlling for narcissism (Barry, Grafeman, Adler, & Pickard, 2007). However, it is easy to overlook the separate contribution of low self-esteem and narcissism to aggression, since the effect is small (Locke, 2009).

The pattern of findings found in the relationship between low self-esteem and bullying is also similar. In particular, there is evidence indicating that children and adolescents who are involved in bullying as victims, bullies, or both, have significantly lower levels of global self-esteem compared to children who are not involved in bullying (O'Moore & Kirkham, 2001). A recent study by Fanti and Henrich (2014) investigates the longitudinal association, across a 1-year period, between self-esteem and narcissism with bullying and peer victimization. Using early adolescents as their sample, they too found only a small correlation between self-esteem and narcissism. Hence, this demonstrates that the two constructs are distinct from one another, and the combination of low self-esteem (i.e., fragile self-concept) with high narcissism (i.e., grandiose self-view) contributes to the continuation of both bullying and victimization. It is possible that bullying behaviour is a way of compensating for their negative self-image (Baumeister et al., 2003; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999) which may in turn raise the self-esteem of adolescents (Rosenberg, Schooler, & Schoenbach, 1989).

Low self-esteem leads to weaker social bonds, which place youth at risk of displaying antisocial behaviour (Donnellan et al., 2005). In a seven-year study of 1170 male adjudicated youths, Dmitrieva, Gibson, Steinberg, Piquero, and Fagan (2014) found that lower self-esteem predicted future gang affiliation among younger gang members and leaders (i.e., during adolescence). In particular, the effect of low self-esteem on gang membership during middle-to-late adolescence is mirrored by the general decline in peer orientation and increased resistance to peer pressure (Steinberg & Monahan, 2007).

There are two ways of interpreting low self-esteem - (1) it means having either an accurate, well-founded understanding of one's shortcomings as a person, or (2) a distorted, pathological sense of insecurity and inferiority (Baumeister et al., 2003). Some people with low self-esteem appear predisposed to aggressive behaviour, possibly due to the feelings of inferiority that make people want to harm those they perceive as better than themselves. Individuals suffering from low self-esteem may protect themselves against feelings of inadequacy, inferiority, and shame by externalizing blame for their problems and failures, which leads to aggression and violence toward others (Ostrowsky, 2010). Some people even turn to aggression as an alternative to their limited sources of self-esteem (Papps & O'Carroll, 1998).

Toch (1993) observed that many violent men seek out situations where their self-worth will be challenged, which will lead to violent confrontation. Individuals who lack self-esteem may feel the need to act out, and thus seek out such challenges and use attention-seeking behaviour as a way to increase their self-esteem. As a consequence,

they become endowed with an increased sense of power and independence (Ostrowsky, 2010).

Studies relevant to this issue have yielded mixed results. For example, in a study of 12-year old school children, Diamantopoulou, Rydell, and Henricsson (2008) examined two opposing hypotheses: aggression stems from low self-esteem and the disputed self-esteem hypothesis, which suggests that children may act aggressively toward others who dispute their high self-evaluations (e.g., Baumeister et al., 2000; Baumeister et al., 1996; Bushman & Baumeister, 1998). The main results showed that both low levels of global self-worth and exaggerated but disputed self-esteem were related to aggression. However, depending on how self-esteem is conceptualized, aggressive children may appear to have both low and high self-esteem (Diamantopoulou et al., 2008). Adding to the confusion, some recent studies have failed to find any significant relationship between self-esteem and aggression (e.g., Baumeister et al., 2000; Bushman & Baumeister, 1998).

Although researchers assumed the correlation between low self-esteem and aggression, empirical evidence shows that the association is not as conclusive as has previously been claimed. The fact that low self-esteem is associated with all the behavioural tendencies that run contrary to aggression, such as risk-taking avoidance, self-protectiveness, and lack of confidence (Baumeister, Tice, & Hutton, 1989) makes it difficult to believe that people with low levels of self-esteem would be aggressive.

2.2.2 High Self-Esteem Leads to Aggression

The low self-esteem hypothesis has been challenged by Baumeister and colleagues (Baumeister et al., 2000, 1996; Bushman & Baumeister, 1998). The competing view that high self-esteem leads to aggression, however, is also not as simple and as direct. Rather, the contention is that individuals with high levels of self-esteem are at greater risk of behaving in an aggressive manner, especially when their highly favourable self-worth is perceived as threatened. It is the "*threatened egotism"* that best explains this theory. According to the threatened egotism model, aggression and violence are most likely to occur when a person with a narcissistically inflated view of self-encounters someone who disputes that opinion (Baumeister et al., 2000, 1996; Bushman & Baumeister, 1998; Bushman et al., 2009). Violence is a way of defending a highly favourable view of self against someone who seeks to deflate it (Papps & O'Carroll, 1998; Salmivalli, 2001). In other words, threatened egotism and narcissism may also be associated with aggression.

The threatened egotism model asserts that when the self is threatened, the combination of an inflated self-concept with negative evaluations by others leads to a discrepancy between a favourable internal appraisal and an unfavourable external appraisal (Baumeister et al., 1996). The experience of negative emotion towards the self is expected if one accepts the negative appraisal by lowering his/her self-view. On the other hand, if one rejects the appraisal to maintain his/her self-view, no change would occur to the appraisal. Instead, negative emotions would be produced towards the source of threat, which may eventually cause aggression or violence. Thus, the more favourable the self-view, the more likely one will perceive feedback as unacceptably low, which in turn leads to more frequent aggression.

Furthermore, there are three identifiable factors that increase the tendency of an individual to experience an ego threat, and further increase the probability of aggressive responding (Baumeister et al., 1996). First, it was argued that the accuracy of self-appraisal would influence the individual's perception of feedback from their environment. Presumably, individuals with high and accurate self-appraisals receive feedback from the environment, confirming their highly positive views. Yet, individuals with unrealistically positive self-views were thought to have a greater chance of encountering external feedback disconfirming their highly positive self-view, hence causing threat to their ego. The second factor is that the degree to which one's self-esteem is reliant on external validation was considered to increase the chance of perceiving feedback negatively. These scholars concluded that people who need social validation to make themselves feel good are more susceptible to external threats to the ego. However, those who have more secure self-views were not considered as vulnerable. Thirdly, it was proposed that the stability of one's self-esteem might increase the probability of experiencing an ego threat. Thus, those with unstable self-esteem are highly responsive to external events. When individuals with unstable self-esteem receive negative feedback, it is more likely that their self-esteem would drop (Kernis, Cornell, Sun, Berry, & Harlow, 1993). Therefore, it was assumed that the unstable self-esteem individuals have a greater chance to experience blows to their self-view.

It has been suggested that high self-esteem is a heterogeneous construct, consisting of both a stable and unstable form (Jordan & Zeigler-Hill, 2013). Stable high self-esteem reflects positive attitudes toward the self that are realistic, well-anchored, and resistant to threat. Individuals with stable high self-esteem are known to have a solid foundation

for their feelings of self-worth that does not require constant validation from others. In contrast, unstable high self-esteem refers to feelings of self-worth that are vulnerable to challenge, require constant validation, and rely upon some degree of self-deception. Individuals with unstable high self-esteem are known to be preoccupied with protecting and enhancing their vulnerable feelings of self-worth. High, unstable self-esteem individuals are more hostile than low self-esteem individuals. But high stable self-esteem individuals are the least hostile (Kernis et al., 1989). In conjunction with level of self-esteem, it has been shown that much of the previous research regarding self-esteem instability predicts a variety of important outcomes, including defensiveness (Kernis, Lakey, & Heppner, 2008), psychological adjustment (Zeigler-Hill & Wallace, 2012), and interpersonal style (Zeigler-Hill, Clark, & Beckman, 2011). These studies suggest that the self-regard of those with unstable high self-esteem is constantly at risk, which leads to heightened reactivity and defensiveness among these individuals. Research exploring the threatened egotism model has shown that not all individuals with high self-esteem, which for most part refers to global self-esteem, are predictive of aggressive behaviour (Ang & Yusof, 2005; Bushman & Baumeister, 1998). Instead, the growing body of literature indicates that only those with favourable self-views have a greater potential to exhibit aggressive behaviour.

2.2.3 Narcissism and Aggression

As discussed earlier, it has been noted that the threatened egotism model is congruent with findings supporting narcissism as a predictor of aggression (Baumeister et al., 2000; Bushman & Baumeister, 1998), and are more prone to engage in criminal acts and be incarcerated (Barry, Frick, et al., 2007; Hepper et al., 2014) . This is based on the fact that narcissists have a sense of self that is inflated yet highly vulnerable (Morf

& Rhodewalt, 2001). Therefore, the combination of high self-esteem and high narcissism produced the highest levels of aggression (e.g., Thomaes, Bushman, Stegge, & Olthof, 2008). Additionally, Papps and O'Carroll (1998) found that individuals with high self-esteem and concomitant high levels of narcissism were more likely to experience and express anger, while those with high self-esteem but low narcissism were not. This also means that not all individuals with high self-esteem are narcissists. Nevertheless, support for this hypothesis has been found in a number of laboratory studies in which individuals with high levels of self-esteem and/or narcissistic personality features were exposed to various self-esteem threats such as receiving negative feedback on an essay, and responded aggressively to these threats by blasting a fellow participant with an aversive noise (Bushman et al., 2009; Thomaes et al., 2008).

Those who have narcissistically high self-esteem refuse to see negativity in themselves, and are hence more likely to exhibit aggressive behaviour (Barry et al., 2007; Salmivalli, 2001). They have a strong desire to be admired, therefore are persistent in maintaining a high opinion of themselves (Morf & Rhodewalt, 2001), so that others will regard them in a high manner (Baumeister et al., 2000). Consequently, individuals with high levels of narcissism were more aggressive than others, especially when being rejected (Twenge & Campbell, 2003), or provoked by insult or humiliation (Bushman et al., 2009). When experiencing an ego threat, narcissistic individuals use aggression to re-establish their self-esteem and punish the source of threat (Bushman & Baumeister, 1998).

The experience of failure disputes the grandiose self-views of narcissists, leading to greater emotional reactivity and subsequent aggression (Bushman & Baumeister, 1998). Evidence has shown that in response to failure, narcissistic individuals displayed greater anger, anxiety, and self-esteem reactivity (Rhodewalt & Morf, 1998). Narcissists' failure in social functioning may be due to their relative absence of empathy for others (Hepper et al., 2014). Narcissism was also associated with increased aggressiveness after negative feedback and poor evaluation (Martinez, Zeichner, Reidy, & Miller, 2008). In response to negative evaluation, Baumeister et al. (2000) stated that individuals high in narcissistic traits could be more aggressive due to the unrealistically high expectations and over reliance on external feedback. Thus they are more highly susceptible to feedback that is threatening or contradictory to their elevated self-views (Bushman & Baumeister, 1998; Papps & O'Carroll, 1998). However, this effect was only found in males (Barry, Chaplin, & Grafeman, 2006).

More recently, narcissism has also been linked to aggressive responding even in the absence of ego-threat (Martinez et al., 2008). Narcissists defend themselves aggressively, but also aggress against others when unprovoked. Perhaps most disturbing is that laboratory-controlled studies of the narcissistic personality and aggression have an ecological parallel in some of the most severe forms of aggression. In support, Baumeister et al. (2000) stated that narcissism is not entirely based on vanity and self-admiration but, rather, the inflated sense of superiority and sense of entitlement to special privileges.

Research has also shown a direct relationship between self-reported aggression and narcissism in children and adolescents (e.g., Ang & Yusof, 2005; Washburn,

McMahon, King, Reinecke, & Silver, 2004). It appears that narcissism is related to an increase of general delinquency and violence in adolescents (Costello & Dunaway, 2003). In support, Barry, Grafeman, Adler, and Pickard (2007) explored the relationship between narcissism and delinquency among a sample of 372 at-risk 16–18 year-olds. The findings indicated that narcissism, but not self-esteem, was associated with delinquency and aggression. Further, highly narcissist adults with traits such as relatively dominant, exhibitionistic, self-centred, and self-indulgent (Raskin & Terry, 1988, p. 899) may have a higher tendency to commit aggressive acts for instrumental gain (i.e., exhibit proactive aggression to achieve desired status or attention; Salmivalli, 2001).

There are also studies that have identified no direct relationship between either aggression and narcissism, or aggression and self-esteem. Rather, an interactive effect was found between narcissism and self-esteem in relation to aggression. For instance, a study by Papps and O'Carroll (1998) showed that individuals with high self-esteem and high levels of narcissism reported more experience and expression of anger, while those with high self-esteem but low narcissism were least prone to anger. As discussed earlier, some even indicated that the combination of narcissism and low self-esteem is predictive of aggression (e.g., Locke, 2009). It has been suggested that inconsistent results could be due to the ways in which self-esteem has been conceptualised and measured (Ostrowsky, 2010) when looking into the relationship between self-esteem and aggression.

2.2.3.1 Adaptive and Maladaptive Narcissism with Aggression

Studies have shown that narcissist with maladaptive traits (e.g., exhibitionism, entitlement, exploitativeness) are more likely to engage with antisocial and aggressive behaviours, than those with adaptive traits of narcissism (authority, self-sufficiency) (Barry, Frick, et al., 2007; Lau, Marsee, Kunimatsu, & Fassnacht, 2011; Washburn et al., 2004). The maladaptive characteristics may predispose narcissistic individuals' to aggressive behaviours by increasing motivation to gain power and by decreasing regard for conventional social consequences (Hepper et al., 2014). Consequently, exploiting others may enable narcissistic individuals to maintain and regulate their grandiose self-image (Salmivalli, 2001). Besides the motivation to exploit, a reason to aggress may be strengthen by the lack of empathy in these narcissistic individuals, which approves their urges to committing devious plans (Hepper et al., 2014).

Lau et al. (2011) investigated the links between the adaptive and maladaptive components of narcissism with externalizing (overt aggression, relational aggression and delinquency) and internalizing problems in a sample of 157 nonreferred adolescents (aged 14 to 18). Apart from the positive associations of total narcissism with the self-reported externalizing problems, maladaptive narcissism showed unique positive associations with aggression and delinquency variables. Adaptive narcissism showed unique negative association with symptoms of anxiety. Similarly, Washburn et al. (2004) examined the factors in the NPI (Raskin & Terry, 1988) and its association with reactive and proactive aggression, as well as internalizing symptoms in a community sample of young African American urban adolescents. The results of their study show that the Exploitative factor of the NPI predicted self-reported proactive

aggression, but not teacher or peer reported aggression, or self-reported reactive aggression. Exhibitionism predicted self-reported anxiety and depression symptoms. Further, Reidy, Zeichner, Foster, and Martinez (2008) examined the effects of narcissistic traits on direct physical aggression in a sample of 91 undergraduate males (mean age = 20 years). In a laboratory setting, participants competed in a series of reaction time trials where they had the option to administer electric shocks as punishment to an opponent regardless of winning or losing the trial, as often as they liked throughout the task. A non-response option was also provided as a measure of a non-aggressive response. Controlling for initial aggression levels, the results of the study indicated that the exploitative and entitlement characteristics of narcissism strongly predicted increased use of direct physical aggression, and higher intensities of shock levels.

Clearly, maladaptive narcissistic traits predispose an individual to aggression and antisocial behaviour, especially under conditions of perceived threat to their grandiose self-views. Individuals high in narcissistic traits are also prone to use aggression due to their exploitative and exhibitionistic nature. Related studies on narcissism reveal them to be impulsive and insecure individuals who are greatly reactive to the effects of shame (Thomaes et al., 2008), and react poorly to the disparity between their self-views and others' perception on them.

2.3 Self-Esteem Domains and Dimensions

2.3.1 Global Self-Esteem

The "self" is made up of myriad constructs (Shavelson, Hubner, & Stanton, 1976), which underpin a multi-dimensional view of the self. Several authors have noted that self-esteem, or self-concept (e.g., Kirkpatrick et al., 2002) is not a singular entity, and any form of self-evaluation is likely to have many distinct components. These components may well be inter-correlated, but play quite different roles and may be activated in different contexts. The majority of previous studies that linked self-esteem to aggression used global measures of self-esteem (e.g., Donnellan et al., 2005; Maples et al., 2010), whereas other studies treated self-esteem as a dimensional rather than global construct. While global self-esteem can be a useful construct, there have been arguments for differentiating between domains of self-esteem, and between explicit and implicit self-esteem.

2.3.1.1 Measures of Global Self-Esteem

In many studies evaluating self-esteem and aggression, the case definitions of self-esteem were based on the utilization of different instruments. The most widely used instrument evaluating self-esteem is the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965), which is a global dimensional instrument yielding only a single self-esteem score. However, this instrument has been criticised for being vague in comparison to the other measures that are designed to evaluate specific components of self-esteem (Rosenberg et al., 1995). Given the importance of understanding the aetiology and maintenance of aggressive behaviour, it is surprising that there has not been a greater effort to understand which elements of self-esteem mediate the

relationship with aggression. Such an understanding would help in risk assessment of individuals and may contribute to treatment plans for those thought to be at high risk of more extreme form of aggressive behaviour.

In comparison, the Multidimensional Self-esteem Inventory (MSEI; O'Brien & Epstein, 1988) is a more comprehensive instrument that evaluates different components of self-esteem. It is based on a model of self-esteem - Cognitive-Experiential Self-Theory (CEST; Epstein, 1980) that recognises both the influence of experiential and rational systems. The underpinning theory (Epstein, 1980) proposes that elements of self-evaluation are structured in a hierarchical manner. The highest level is global self-esteem (GSE), which refers to the basic evaluation of self-worth and also represents an integration of more specific elements of self-esteem. At the intermediate level of generality, there are eight components that look at more specific domains of everyday life experiences. These components, which have a high influence on changes in the GSE depending on situations, thus serve to guide and control one's behaviour to ensure that it is consistent with moral standards. The MSEI clearly defines and measures a global level of self-esteem along with eight different lower level and specific aspects of self-esteem: Competence (CMP), Lovability (LVE), Likeability (LKE), Self-control (SFC), Personal Power (PWR), Moral Self-approval (MOR), Body Appearance (BAP), and Body Functioning (BFC). The multifaceted nature of self-esteem (e.g., Epstein, 1980) means that there is a possibility that one self-esteem component may be high, whilst the other components may be low. Different scores obtained from the different domains will eventually influence the overall judgement of a person's global self-esteem, hence affecting how they behave and respond to their environment, and hence may be differentially related to aggression. Nevertheless, it

has been argued that if different domains of self-esteem differentially relate to aggression, but are combined into a single measure of self-esteem, they may either interfere with or cancel out the effect of each other (Kirkpatrick et al., 2002).

2.3.1.2 Limitation of Explicit Measures

Global (explicit) self-esteem is traditionally reported via interview or self-report questionnaires. Such measurements are directly evaluated and termed as "explicit measures". Explicitly generated responses are controllable, intended, involve awareness, and require cognitive resources (Nosek, 2007). Clearly, such methods rely on the person being honest about their thoughts. However, in many situations such as in the investigation of socially stigmatic thoughts or thoughts related to criminal activities and problematic behaviours, people may deliberately distort their reports in order to conceal such thoughts (Greenwald et al., 1998). In the case of self-esteem, it seems likely that some people may well be deceptive in their reports for a variety of reasons, perhaps not to appear too boastful (Yamaguchi et al., 2007) or to hide feelings of inadequacy (e.g., Raskin, Novacek, & Hogan, 1991) or for other culturally defined reasons (Tafarodi, Shaughnessy, Yamaguchi, & Murakoshi, 2011). The limitations of explicit measures, which are susceptible to socially desirable responding and self-representation, have been a driving force for the development of implicit measurement procedures.

2.3.2 Implicit Self-Esteem

According to the dual-process models of information processing, self-views operate under two modes: the cognitive and the experiential mode (Epstein, 1994). Global or explicit self-esteem, a product of the cognitive mode, refers to deliberately and consciously reasoned evaluations of the self. Implicit self-esteem, a product of the experiential mode, refers to self-evaluation in an automatic, intuitive, and unconscious manner (Epstein & Morling, 1995). It has been assumed that implicit self-esteem develops earlier in life, partly from early social interactions (DeHart, Pelham, & Tennen, 2006) and is more primitive than explicit self-esteem (Bosson, Brown, Zeigler-Hill, & Swann, 2003). According to the recent model, these dual attitudes might develop through normal processes of attitude change (Wilson, Lindsey, & Schooler, 2000). When an attitude is altered from one valence level to another, the older, more habitual attitude may persist in memory and continue to affect behaviour at an implicit level. This implies that an individual can concurrently hold two inconsistent self-attitudes, perhaps as a consequence of having relatively recently updated his or her self-views. In support, Swann and Schroeder (1995) claimed that explicit self-evaluations are assumed to be more sophisticated cognitive judgments of the self, whereas implicit self-evaluations are likely to be produced by rather primitive self-enhancement mechanisms.

However, there is one particular aspect of implicit attitudes that has generally been underappreciated (Wilson et al., 2000). Many theorists define implicit attitudes, including implicit self-esteem as unconscious (Bosson et al., 2000; Farnham et al., 1999), yet evidence for this notion is not clear. There is a possibility that implicit self-esteem is more analogous to a preconscious cognitive structure that can sometimes

enter awareness than it is to an unconscious structure that exists wholly outside of awareness. Implicit attitudes are believed to guide conscious responses when individuals are not motivated to, or are unable to, retrieve their explicit attitudes (Wilson et al., 2000). Individuals whose cognitive capacity is overloaded with effort or time pressure constraints may report explicit self-views that correspond more closely to their levels of implicit self-esteem than do individuals who report their self-views in the absence of such constraints (Koole, Dijksterhuis, & van Knippenberg, 2001).

2.3.2.1 Measures of Implicit Self-Esteem

Implicit self-esteem, by its very nature, cannot be measured via explicit self-report and therefore requires indirect or "implicit measures", which often involve classification of stimuli in computer-based reaction-time tasks. Implicit measurement is considered important because it reduces peoples' ability to control their responses, and also deprives people of the opportunity to consciously alter their responses. In comparison with explicit measures, implicit measures are more apt to capture unfiltered aspects of the self-esteem (Olson, Fazio, & Hermann, 2007). This aspect is exceptionally important to researchers when participants are motivated to engage in impression management. The most popular measures of implicit self-esteem are the Implicit Association Test (IAT) and the Name-Letter Test (NLT). These measures assume that implicit self-esteem is "a valence association that a person has toward him/herself" (Buhrmester, Blanton, & Swann, 2011).

Implicit and explicit self-esteem have been suggested to be discrete but related constructs (Bosson et al., 2000). The latter authors distinguished seven implicit

measures of self-esteem and found that most of these measures showed very little correlation with each another, and were only weakly associated with explicit self-esteem. Despite the apparent failure of these measures to provide an coherent index of implicit self-esteem (for a more thorough discussion see Buhrmester et al., 2011), which may be, among other reasons, due to insufficient consideration of how to produce a single score to represent self-esteem from a complex task (e.g., Gebauer, Riketta, Broemer, & Maio, 2008; LeBel & Gawronski, 2009), and task features such as the labelling of concepts and the representation of concepts by stimuli (e.g., Bluemke & Friese, 2012), there is now a rapidly increasing literature that has applied these tests to look at the relationship between implicit self-esteem and other behaviours (for a review, see Zeigler-Hill & Jordan, 2010).

2.3.2.2 Implicit Association Test (IAT)

As mentioned previously, the Implicit Association Test (IAT; Greenwald et al., 1998) is one of the most widely and successfully used among the implicit measurement techniques. The IAT is reliable, easy to administer, robust, and produces large effect sizes, particularly in comparison with other implicit measures of social cognition (Greenwald et al., 1998). During the IAT, participants are required to make two simultaneous judgements in the computerised categorisation reaction-time task. It uses complementary pairs of concepts and attributes, and it can be effectively used because many socially significant categories form complementary pairs, such as positive-negative (valence), self-other, male-female, Jewish-Christian, aggressive-peaceful, and so forth (Greenwald & Farnham, 2000). The uniqueness of the IAT, in comparison to the recently developed association-based measures of implicit social cognition is

that the IAT is limited to measuring the relative strengths of pairs of associations, rather than absolute strengths of single association.

The inability of the IAT to reveal the evaluative associations with a single target concept, however, represents both a strength and limitation of the measure. Many attitude objects have a complementary category - hence it makes sense to consider these attitude objects relative to another category (Greenwald & Farnham, 2000). In contrast, some researchers may be interested in the evaluative associations with a single target concept. As such, instead of measuring the positive and negative associations a person has with the self in comparison to an unspecified other (or with me in comparison to not-me), an alternative approach to measuring self-esteem would be to measure only evaluative associations with the self with no complementary category (see Karpinski, 2004). This approach is not possible within the conventional IAT paradigm. Thus, in such situations, a single-category IAT (SC-IAT; Karpinski & Steinman, 2006) may be more suitable as it provides a more specific measure of the evaluative associations in question than an IAT. Indeed, as the explicit measures of self-esteem are not explicitly comparative, the SC-IAT demonstrated greater association with explicit measures of self-esteem than would a self-other IAT (Karpinski & Steinman, 2006).

2.3.3 Implicit Self-Esteem and Aggression

Some studies have found that implicit self-esteem relates to variables in similar ways to explicit self-esteem, but other studies have found that implicit and explicit self-esteem are associated with variables in different ways. Therefore, it is difficult to hypothesize how implicit self-esteem might be related to aggression, as research in

this area is very much in its infancy. In a relevant study, children's explicit and implicit self-esteem was used to predict aggressive behaviours in a school setting (Sandstrom & Jordan, 2008). It was found that high explicit self-esteem was predictive of aggression only for those that also had low implicit self-esteem. This suggests that levels of implicit and explicit self-esteem may link differently to aggression. Perhaps, in order to provide a comprehensive understanding of the effect of self-esteem on aggression, research must consider not only explicit and implicit self-esteem individually, but also the interactions between these two aspects of self-evaluation (Jordan et al., 2003).

2.3.4 Defensive Self-Esteem/Discrepancies of Self-Esteem

Explicit and implicit self-esteem may exist as distinct attitudes about the self, hence, as different evaluative processes influence both attitudes, a person may have quite different levels of explicit and implicit self-esteem (Gawronski & Bodenhausen, 2006). Discrepancies in the levels of self-esteem can take two possible forms. High explicit but low implicit self-esteem is known as defensive (Jordan et al., 2003) or fragile self-esteem (Bosson et al., 2003). Low explicit but high implicit self-esteem is known as damaged self-esteem (Schröder-Abé, Rudolph, & Schütz, 2007).

2.3.4.1 Fragile Self-Esteem

Discrepancies between implicit and explicit self-esteem have been associated with important consequences to mental and physical health, and to different behavioural tendencies. For example, fragile self-esteem is associated with self-enhancement (Bosson et al., 2003). These individuals seem to be superficially confident and

contented, although there is a persistent doubt about their self-worth at a less conscious level (Spencer, Jordan, Logel, & Zanna, 2005) that makes them fragile inside. In order to face this psychological discomfort, individuals with fragile self-esteem will enhance judgments of the self through a range of behaviours such as being more narcissistic, showing greater in-group biases, and having hostile interpersonal strategies (Jordan et al., 2003; Zeigler-Hill, 2006) than individuals with secure or congruent self-esteem (high explicit and high implicit self-esteem). Furthermore, individuals with fragile self-esteem promote more defensive reactions to adverse feedbacks (Bosson et al., 2003; Jordan et al., 2003) than individuals with low implicit and low explicit self-esteem. Defensiveness that leads to aggressive behaviours may be used to bolster a person's fragile self-perception (e.g., Baumeister et al., 1996).

2.3.4.2 Damaged Self-Esteem

Conversely, individuals with damaged self-esteem appeared to have less confidence and are less pleased with themselves. There is an outwardly negative self-view that is underpinned by a less conscious, but grandiose expectation of the inner self. These individuals show more health impairments than individuals with congruent low self-esteem (Schröder-Abé, Rudolph, Wiesner, & Schütz, 2007). In comparison to people with low levels of explicit and implicit self-esteem, individuals with damaged self-esteem are found to have a greater self-enhancement (Bosson et al., 2003) and tend to be even more defensive towards social feedbacks (Schröder-Abé, Rudolph, Wiesner, et al., 2007). There is a possibility that these people placed themselves in high regard in the past, and this self-evaluation still remains at a less conscious level (Jordan et al., 2003; Spencer et al., 2005). Damaged self-esteem was also found to be related to higher level of anger suppression and nervousness (Schröder-Abé, Rudolph, & Schütz,

2007) and was positively associated with depressive symptoms, suicidal ideation, and loneliness (Creemers, Scholte, Engels, Prinstein, & Wiers, 2012). However, empirical work reveals that relatively less attention has been given to this type of self-esteem discrepancy compared to the previous type (i.e., fragile self-esteem).

Explicit self-esteem may symbolise the 'actual self', whilst implicit self-esteem might represent the "ideal self" (Franck, De Raedt, & De Houwer, 2007). People with damaged self-esteem may suffer from discrepancy between the "ideal self" and the "actual self", have a lack of confidence and are unhappy with themselves. They appear to have more health and mental health problems (Schröder-Abé, Rudolph, & Schütz, 2007) than individuals with "fragile self-esteem". In response to threat, there is an automatic threat defence mechanism, in which a damaged self-esteem individual may be hostile and indirectly aggressive as a way of defending their 'secret' inner sense of grandiosity against someone who attempts to deflate it (Ostrowsky, 2010). Hence, this may also protect them from feelings of inadequacy and inferiority that they possess outwardly. Damaged self-esteem is also predictive of greater auto-aggression in those with Borderline Personality Disorder (Vater, Schröder-Abé, Schütz, Lammers, & Roepke, 2010).

Nevertheless, discrepancies between explicit and implicit self-esteem in either direction may therefore be maladaptive, as they represent deficient integration of these self-representations (Schröder-Abé, Rudolph, & Schütz, 2007). Both types of self-esteem discrepancy motivate individuals to hunt and gather self-relevant information (Briñol, Petty, & Wheeler, 2006), hence they may perceive highly flattering personality profiles as more relevant to them in order to boost their self-view (Bosson

et al., 2003). To understand the roles of implicit and explicit self-esteem in aggression, both the unique and joint relationships between implicit and explicit self-esteem might be important.

2.4 Aggression: Reactive and Proactive

The existence of different taxonomies of aggression (Parrott & Giancola, 2007) suggests that human aggression is a multifaceted construct (Vitaro et al., 2006). The expression of aggression can be delivered in myriad ways and for various reasons, depending on the goal of the perpetrator. However, as mentioned earlier in the previous chapter, reactive and proactive aggression are the types of aggression being considered in this investigation.

The distinction between proactive vs. reactive aggression is based on the function of aggression (Dodge & Coie, 1987; Parrott & Giancola, 2007; Raine et al., 2006). The conceptualisation of these types of aggression evolved from the distinction between hostile versus instrumental aggression (Buss, 1961). Although these distinctions emphasize different theories, they refer to instances of similar behaviour, hence the terms tend to be used interchangeably in the literature. Reactive aggression, which derived from the frustration-anger theory of aggression (Vitaro & Brendgen, 2005), is a combative response or behaviour that occurs spontaneously in a state of high arousal (hot-headed) following a particular event such as provocation or frustration. It is also often referred to as “defensive”, “angry”, “hot-blooded”, “impulsive” or “emotional” aggression. On the other hand, proactive aggression, which is associated with the social learning theory of aggression (Vitaro et al., 2006), tends to be planned, occurs for some purpose or some gain (e.g., robbery or revenge), and may be done in a state

of relative low-arousal (cold-blooded). This type has also been termed as "instrumental", "offensive", or "cold-blooded" aggression (Vitaro et al., 2006).

Reactive and proactive aggression are differentially involved with social-cognitive processes (Crick & Dodge, 1996). For instance, reactively aggressive children showed significantly more hostile attribution in ambiguous situations (Dodge & Coie, 1987). Conversely, proactively aggressive children had increased outcome expectancies of their aggression (Miller & Lynam, 2006). Further, the two types of aggression have been found to be differentially correlated with long-term socio-psychological outcomes (Card & Little, 2006). Reactive aggression was associated with anxiety, impulsivity, stimulation seeking (Raine et al., 2006), and internalising problems (Card & Little, 2006). In contrast, proactive aggression was related to psychopathic traits (Raine et al., 2006), narcissism, and apathy (Barry et al., 2007). Proactive aggression is strongly correlated with increased levels of delinquency (Raine et al., 2006), including substance use and violent offending (Miller & Lynam, 2006).

Nevertheless, there have been criticisms of the distinction between reactive and proactive aggression. The high correlation between these two types of aggression shows there is an overlap between the components of both reactive aggression and proactive aggression (Bushman & Anderson, 2001). Consequently, Little et al. (2003) claimed that the similarity in the form of aggression (e.g., physical aggression) produces a confounding effect. However, when the form of aggression is controlled, the correlation between both reactive and proactive aggression disappeared. It has also been argued that the distinctions between reactive and proactive aggression are thought to be difficult in terms of establishing the specific goals, influence effects, and the level

of planning involved in an individual activity (Bushman & Anderson, 2001). Although the value of the distinction between these types of aggression has been disputed, the distinction has been shown to be of some use in the forensic domain, where it has been found that instrumental violence is related to certain psychopathic traits (Cima & Raine, 2009).

2.5 Aims of this Chapter

Whilst the existing literature has yielded inconclusive findings on the links between self-esteem and aggression, the current investigation sought to determine whether the relationship could be confirmed by looking at different dimensions of both self-esteem and aggression. In addition, due to the limitations of explicit measures, previous studies have failed to provide consistent predictions of aggression. Hence, the current investigation sought to determine whether such inconsistencies might be due to relying solely on the explicit measures. In attempt to not neglect the potentially important effects of more automated forms of evaluation of self-worth, and allow the results to be influenced by impression management, implicit measure is considered in this investigation. It is crucial to look at all aspects in order to explore the relationship between these constructs of interest.

Firstly, the study attempted to determine if global self-esteem alone was a predictor of aggressive behaviour. Further, it aimed to specify if global self-esteem was positively or negatively related to different types of aggressive behaviour. Along with this, a measure of narcissism was taken to compare with the measure of self-esteem. As stated earlier, the general hypothesis was that low levels of global self-esteem would be associated with reactive aggression, whilst high levels of narcissism would be

predictive of proactive aggression. This study also sought to examine the differential associations between adaptive and maladaptive narcissism in aggression, with the expectation that maladaptive narcissism would show stronger associations with self-reported delinquency and aggression than adaptive narcissism.

In addition, the aim was to measure both explicit and implicit self-esteem in order to see whether these in isolation or in conjunction, were predictive or different forms of aggressive behaviours. Further, the interaction effect between explicit and implicit self-esteem is examined.

2.6 Methods

2.6.1 Sample

Participants were 214 students (153 females; 61 males) recruited from Cardiff University. Most of the participants were Psychology students who received credits for their participation, whilst others were volunteers that were paid participants. Their age ranged from 18 to 38 years (M = 20.44, SD = 2.40). One of the requirements for this study was that participants have English as their first language. The majority ethnic composition of the sample was Caucasian (95.3%), with the remainder composed of Indian and Asian, each with 0.5%; Chinese and mixed ethnicity each with 1.4%; and Arabic with 0.9%. Of the total number of participants, 188 (87.8%) were doing their undergraduate degree, and the remainder were postgraduate students. There were 137 (64%) who did not affiliate with any religion or belief system, 30.4 % reported being Christians, and the remainder reported being Muslim or Hindu. In terms of relationship status, 46.7% of the participants reported being single, and 53.3% reported being in a

relationship. The sample was recruited via an advertisement that invited participants to take part in an experiment that was looking at various aspects of personality and its relationship with problem behaviours such as violence.

2.6.2 Measures

2.6.2.1 Demographic Measures

Demographic forms (see Appendix A1) were divided into Part A and Part B. In Part A, all participants were asked to provide their name, surname, gender, birth month and place of birth. This information was then used as stimuli for the implicit measures and was deleted from the database after the completion of each experimental session to preserve participant anonymity. In Part B, participants were asked to provide their age, ethnicity, religion, educational attainment, marital status, and length of relationship (if relevant).

2.6.2.2 Self-Report Measures

Multidimensional Self-Esteem Inventory (MSEI)

The MSEI (O'Brien & Epstein, 1988) is a 116-item self-report inventory. This instrument assesses the global measure of self-evaluation (Global Self-esteem) and the sub-components of self-esteem (Competence, Lovability, Likeability, Self-control, Moral Self-approval, Personal Power, Body Appearance, and Body Functioning). Participant responses are evaluated using a 5-point Likert scale as to the degree or frequency that an item applies to them. Higher score indicates high level of self-esteem in that particular component. All of the scales have proven internal consistency and test-retest reliability (O'Brien & Epstein, 1988). In the present sample, the reliability for the Global Self-esteem scale was excellent (α = .91). The α-values for the components of self-esteem ranged from .85 to .91.

Narcissistic Personality Inventory (NPI)

The NPI (Raskin & Terry, 1988) is commonly used to evaluate narcissistic traits in non-clinical adult populations (Raskin & Hall, 1979). It is a 40-item self-report questionnaire where the person chooses which of two statements they most closely identify with. Adaptive narcissism derived from the Authority (e.g., "I see myself as a good leader.") and Self-sufficiency (e.g., "I like to take responsibility for making decisions.") scales. Whereas maladaptive narcissism were considered from the Exploitativeness (e.g., "I find it easy to manipulate people."), Entitlement (e.g., "I insist on getting the respect that is due me."), and Exhibitionism (e.g., "I get upset when people don't notice how I look when I go out in public.") scales. The NPI has

good internal consistency and test-retest reliability (del Rosario & White, 2005). The internal consistency for the current sample was high (α = .86).

Reactive and Proactive Questionnaire (RPQ)

The RPQ (Raine et al., 2006) is a 23-item self-report questionnaire that assesses the frequency of occurrence for reactive and proactive aggression. Participants rated each item on a 3-point scale (0 = never, 1 = sometimes, 2 = often). There were 12 items measuring proactive aggression (e.g., "Had fight with others to show who was on top") and 11 items assessing reactive aggression (e.g., "Yelled at others when they have annoyed you"). The measure has proven validity and reliability (Fossati et al., 2009). In the present sample, the reliability coefficients were good (Reactive Aggression α = .83; Proactive Aggression α = .74).

2.6.2.3 Implicit Measure

Single Target- Implicit Association Test (ST-IAT)

Implicit self-esteem was measured using the ST-IAT (ST-IAT; Wigboldus, Holland, & van Knippenberg, 2004), which was performed using the Direct RT (version 2008) computer software. The ST-IAT design is a modified version of the traditional IAT (Greenwald et al., 1998) and is conceptually similar to the SC-IAT (Karpinski & Steinman, 2006), differing only in minor procedural details. Participants are required to make two simultaneous judgments in a categorisation task. Within the traditional IAT design, participants were presented with two attributes and two target concepts to categorise in each trial, which yields a preference index relative to a contrast concept. In the ST-IAT, however, only one target concept was presented to the participants. The

ST-IAT measures the strength of evaluative associations with a single category or attitude object, hence eliminating the need for the second contrast category and reducing the ambiguity in interpreting IAT scores (Karpinski & Steinman, 2006). The ST-IAT is chosen, as it raises the possibility of obtaining higher criterion correlations when such an arbitrary influence in the evaluation of a target category is reduced (Bluemke & Friese, 2008). In order to familiarise themselves with the response contingency and stimuli, participants were given a series of 20 practice trials before proceeding to the actual 80 test trials.

As shown in Table 2.1, the ST-IAT consisted of four stages that all participants completed in the same order. In the first block, consisting of 20 practice trials, the words representing the target stimulus of "self" were paired with the response key for the negative attribute words (i.e., me + hate). Block 2 was identical to Block 1 and was used as the data for analysis. In Block 3 (20 practice trials) the "self" words were categorized with the positive attribute words (i.e., me + love). Block 4 was identical to Block 3 and was used as the data for analysis.

The attribute category was labelled *love* versus *hate*, and the target category was labelled *me*. Five words were used to represent each of the attribute categories (love: *love, like, nice, good, and adore*; hate: *hate, disgust, dislike, horrible, and nasty*). The self-referential '*me'* terms were generated by asking the participants to complete items within the demographic questionnaire (their first name, surname, gender, date of birth and place of birth). These terms were then entered as stimuli into the self-esteem IAT on an idiographic basis. The idiographic stimuli in self-esteem IATs have been shown

to be empirically superior to generic pronouns (Bluemke & Friese, 2012). All target words were presented in uppercase letters.

Table 2.1. Design for the Single-Target IAT.

Single-target IAT				
Trial Block	No. Trials	Trial Type	Left-key	Right-key
1	20	Practice	Hate words and Self words	Love words
2	80	Test	Hate words and Self words	Love words
3	20	Practice	Hate words	Love words and Self words
4	80	Test	Hate words	Love words and Self words

Throughout the experiment, response keys were always left (A) or right key (L) on the computer keyboard. Participants were required to categorise, as rapidly and as accurately as possible, words that appeared in the centre of the computer screen. In order to prevent a response bias from developing, presentation of the stimuli was weighted so that correct classification required equal use of the left and right response keys (e.g., Bluemke & Fiedler, 2009). For example, during the '*me + hate'* stage, target stimuli, positive and negative attribute stimuli were presented in a 5:10:5 ratio, whilst a 5:5:10 ratio was used during the '*me + love'* stage. Stimuli were selected randomly without replacement in each trial block. Each target stimulus appeared in the centre of the screen using uppercase letters for all concept types, while category labels were displayed throughout the task at the top of the computer screen in lowercase letters. Participants were given instructions prior to commencing each ST-IAT stage.

The IAT effect was computed using the improved scoring algorithm described by (Greenwald, Nosek, & Banaji, 2003), with the following modifications: 1) Practice trials were not included, hence only data from blocks 2 and 4 were used for analyses; 2) Responses latencies below 300ms and over 3000ms were deleted in order to control for the influence of outliers; 3) Participants who demonstrated more than 30% errors, or had more than 25% of responses that constituted extreme scores (outliers), were excluded from further ST-IAT analyses. As recommended by (Greenwald et al., 2003), the ST-IAT used a built-in error penalty that incorporated a forced choice correct procedure that enhances IAT effects. Participants were required to provide a correct response after making any error, such that if the participant pressed the wrong key for a given stimulus, a red 'X' immediately appeared beneath the stimulus word, so they were required to press the other response key as quickly as possible to progress to the next trial.

The IAT effect was calculated using the D-score computation, whereby the differences between average response latencies in blocks 2 and 4 were divided by the standard deviation of latencies across the blocks. The standard interpretation of the self-esteem IAT is that it measures the associations one has with the self (Karpinski, 2004). If a person has more positive associations than negative ones with the self, then the *'love + me'* task will be easy, and response times on these trials ought to be fast. In addition, the *'hate + me'* task will be more difficult, hence response times for this category are slow. As a result, participants with mostly positive associations will have a positive score on the self-esteem-IAT.

Validity of the IAT

The internal consistency of the self-esteem ST-IAT was assessed by calculating the split-half reliability of *D* scores, using an odd-even divide. Specifically, *D* scores obtained on all odd trials were correlated with *D* scores obtained on all even trials. The Spearman-Brown correction was applied to all IAT internal reliability estimates, given that dividing a task into two halves underestimates the resulting reliability coefficients. Hence, all split-half correlations are reported as adjusted *r* values to reflect this correction. Previous research has demonstrated satisfactory reliability and validity of the ST-IAT (Bluemke & Friese, 2008). The present sample demonstrated a good reliability coefficient of the ST-IAT with $\alpha = .77$.

2.6.3 Procedure

Participants attended the laboratory in small groups of 1 to 4 individuals. They were briefed as to the nature of the experiments (the data reported here is a subset of a larger dataset gathered in this session)[5] and told that they would be asked about matters such as their aggression behaviour toward both others and themselves. All participants then gave written informed consent to take part in the study. After completion, participants were verbally debriefed and given a debrief sheet, thanked, and were paid or given course credits. They were offered the chance to watch a short mood-enhancing movie and were given information about counselling services. All procedures were developed with the assistance of Cardiff University Student Counselling Services and were given approval by the Ethical Committee of the School of Psychology, Cardiff University.

[5] Large dataset covering range of personality and behaviours such as attachment styles, self-esteem, aggression, self-harm, etc. One of the works that has been published from this experiment is Craig, R. L., Gray, N. S. and Snowden, R. J. (2013). Recalled parental bonding, current attachment, and the triarchic conceptualisation of psychopathy. *Personality and Individual Differences*, 55(4), 345-350.

2.6.4 Analyses

Data Treatment

Each of the variables was inspected for outliers (> 3 *SD* from mean) and these outliers were capped at this value. The data were then inspected to see if they met the assumptions of a normal distribution. In accord with the recommendations of other authors (Tabachnick & Fidell, 2007) for dealing with large datasets, visual inspections were used rather than formal statistical tests. Most of the measurements appeared to be normally distributed. However, the RPQ scale of proactive aggression was not normally distributed, showing a skew such that many participants had the minimum score possible. No data transformation could produce an approximate normal distribution of these data. Given that the use of regression analysis is not dependent on the presence of normally distributed variables (Tabachnick & Fidell, 2007), this variable was still considered suitable for use in formal analyses.

Prior to conducting a hierarchical multiple regression analysis, the relevant assumptions of this statistical analysis were tested. Firstly, a sample size of 214 was deemed adequate, given that three independent variables were to be included in the analysis (Tabachnick & Fidell, 2007). The assumption of singularity was also met, as the independent variables (Explicit/Global Self-esteem, Narcissism, and Implicit Self-esteem), were not a combination of other independent variables. An examination of correlations (see Table 2.3) revealed that no independent variables were highly correlated. Collinearity statistics (i.e., Tolerance and VIF) were all within the accepted limit; therefore the assumption of multicollinearity was met. Extreme univariate outliers identified in initial data screening were modified as above. An examination of

the Mahalanobis distance scores indicated no multivariate outliers. Residual and scatter plots indicated that the assumptions of normality, linearity, and homoscedasticity were all satisfied (Pallant, 2010).

As many of the scales used have multiple subscales there is the possibility of many Type 1 errors if conventional levels of probability ($\alpha = .05$) were used. On the other hand, true Bonferroni correction conducted on all the variables provided a too conservative criterion with which to investigate these issues. Therefore, we adopted a more conservative criterion and used $\alpha = .01$.

Descriptive statistics were calculated according to gender groups for all variables of interest. The differences between males and females were then assessed using a t-test. The major aim of this study was to compare the strength of association between the measures of self-esteem and aggression, hence using non-parametric statistics (e.g., Spearman rho) to assess correlations for this one measure would mean that we would not be able to compare these correlations with the other parametric correlations (Pearson *r*). As there is evidence that Pearson *r* is robust over a wide range on non-normality (Fowler, 1987), we decided to use zero-order correlation (Pearson *r*) for all scales. Correlations were compared using the methods described by Steiger (1980).

When looking at the relationship between explicit and implicit self-esteem with types of aggression, hierarchical multiple regression analyses was used to control for the effects of covariates.

2.7 Results

2.7.1 Sample Averages and Gender Differences

Descriptive statistics are shown in Table 2.2, along with average scores for each variable, both across the sample as a whole and according to gender. In addition, the table shows the results of a series of t-tests used to determine the presence of any significant gender differences. One participant failed to complete the self-report measure of NPI and another person on the RPQ. Two participants had lost their data for self-esteem IAT (ST-IAT) due to technical failures. These cases were deleted from subsequent analyses.

Males showed significantly greater levels of global (explicit) self-esteem and narcissism than females, although the effect sizes (ES) for both were small (Cohen, 1988). Levels of maladaptive narcissism were also higher in males than in females, but there were no significant difference on the levels of adaptive narcissism for both genders. The difference in implicit self-esteem failed to reach our required level of significance. On the measure of aggression, males reported significantly more reactive aggression (small ES) and more proactive aggression (large ES) than females.

Table 2.2. Means, standard deviations, and t-tests comparing scores for all variables between males and females.

Variable			Total sample (N = 214)		Males (N = 61)		Females (N = 153)		Group Comparison	Effect Size
	Min	Max	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Explicit (Global) SE	10	49	28.55	7.74	30.3	7.95	27.86	7.57	t = 2.10*	0.32
Narcissism	0	32	11.74	6.8	13.73	7.19	10.96	6.5	t = 2.72**	0.40
• Adaptive Narcissism	0	14	5.11	3.04	5.45	3.08	4.98	3.02	t = 1.03	0.15
• Maladaptive Narcissism	0	15	4.46	3.15	5.52	3.18	4.05	3.06	t = 3.12**	0.47
Implicit SE	-.75	1.36	0.25	0.34	0.27	0.37	0.24	0.32	t = 0.60	0.09
RPQ Reactive Aggression	0	19	6.73	3.89	7.73	4.4	6.33	3.65	t = 2.19*	0.36
RPQ Proactive Aggression	0	14	1.19	2.02	2.28	2.88	0.76	1.34	t = 3.92***	0.80

Note: SE = Self-esteem. RPQ = Reactive and Proactive Aggression Questionnaire. *p < .05, **p < .01, ***p < .001. Effect size was calculated using Hedges' g (McGrath & Meyer, 2006).

2.7.2 Relationships between Explicit Self-Esteem and Aggression

In order to investigate hypotheses 1 and 2, zero-order correlation analyses were performed on the self-report measures of self-esteem, narcissism, and aggression. Table 2.3 summarises the result of these relationships.

Global self-esteem (GSE) and aggression. GSE as measured by the MSEI was significantly negatively related to RPQ Reactive Aggression, but not related to RPQ Proactive Aggression. However, the correlation coefficient between GSE and reactive aggression was not statistically significant different for males and females ($z = 0.27$, $p = .78$).

Narcissism and aggression. The pattern of associations for narcissism is almost the mirror image of those described for GSE. Narcissism was positively associated with proactive aggression, but not with reactive aggression, though the magnitude of this correlation did not significantly differ for males and females ($z = 0.90$, $p = .37$).

It was also shown that GSE and overall narcissism is positively related. As expected, there was a medium correlation between reactive and proactive aggression.

Table 2.3. Zero-order correlations between self-esteem, narcissism and aggression (*N* = 214).

Variable	(1)	(2)	(3)	(4)
(1) Global SE (GSE)	-	.44***	-.19**	.02
(2) Narcissism		-	.15	.28***
(3) RPQ Reactive			-	.56***
(4) RPQ Proactive				-

Note: ** $p < .01$. *** $p < .001$. SE = Self-esteem. RPQ = Reactive-Proactive Questionnaire.

Further, the correlations between the adaptive and maladaptive subscales of narcissism with the subtypes of aggression are as shown in Table 2.4. Adaptive narcissism was not related to any types of aggression. Maladaptive narcissism was positively related to both reactive and proactive aggression with similar effect sizes. The magnitudes of the correlations between narcissism and aggression did not differ significantly between males and females (z = 0.62, p = .54 for reactive aggression; z = 1.0, p = .32 for proactive aggression).

Table 2.4. Zero-order correlations between adaptive and maladaptive narcissism with aggression (N = 214).

Variable	Reactive Aggression	Proactive Aggression
(1) Adaptive Narcissism	.04	.14
(2) Maladaptive Narcissism	.27***	.33***

Note: ** p < .01. *** p < .001

A series of multiple regression analyses were conducted to determine if global (explicit) self-esteem and narcissism predicted a unique amount of variance in reactive and proactive aggression, and to determine if there was a significant interaction between narcissism and self-esteem. Narcissism and self-esteem were standardised prior to creating the interaction terms. As t-tests (see Table 2.2) have shown that there were gender differences in the variable scores, for each analysis, gender was entered at the first step. Global self-esteem and narcissism were entered at the second step, and the interaction term (i.e., for self-esteem and narcissism) was entered at the third step. At each step of the model, the ΔR^2 value was inspected to determine whether the newly added variables resulted in a significant improvement in outcome prediction. Where prediction had been significantly improved, individual β values were examined to

determine which variables demonstrated a unique significant influence on the aggression outcome. Table 2.5 displays the findings of these analyses.

Reactive Aggression. At Step 1, gender did not show any significant effect in predicting reactive aggression. After GSE and narcissism were entered at Step 2, the variable explained by the model as a whole was 13.1%, F (3, 208) = 10.45, $p < .001$, after controlling for gender. Finally, the self-esteem x narcissism interaction did not further improve the prediction of the outcomes. The final model showed that only GSE and narcissism measures were statistically significant.

Given the high correlation between proactive and reactive aggression, the analysis was repeated with additional control for the alternative subtype of aggression (i.e., proactive aggression), along with gender, to isolate the unique attributes of reactive aggression. At Step 1, the model was significant F (2, 209) = 47.14, $p < .001$ and explained 31.1% of variance in reactive aggression. Gender was not statistically significant. However, as expected, proactive aggression ($\beta = .57$, $p < .001$) increased with the scores of reactive aggression. At Step 2, the model was significantly improved by an additional 5% with GSE, but not narcissism, being significant. At Step 3, the interaction term failed to reach significance, and only GSE was shown to be a significant predictor ($\beta = -.26$, $p < .001$).

Proactive Aggression. Gender was entered at Step 1, explaining 11.5% of the variance in proactive aggression. After entry of GSE and narcissism at Step 2, the total variance explained by the model as a whole was 18.4% F (3, 208) = 15.61, $p < .001$, with only narcissism being statistically significant. In the final model, the interaction term was

not significant, and only the two control predictors were significant, these being narcissism (β = .30, $p < .001$) and gender (β = -.31, $p < .001$).

To isolate the unique attributes of proactive aggression, the above analysis was repeated by adding reactive aggression at Step 1, along with gender. The model was statistically significant F (2, 209) = 62.47, $p < .001$, explaining 37.4% variance in proactive aggression. Gender and proactive aggression were significant with β = -.26, $p < .001$ and β = .52, $p < .001$, respectively. GSE and narcissism did not improve the prediction of the outcomes at Step 2. The interaction term also failed to reach significance in the final model.

Table 2.5. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, narcissism, and self-esteem x narcissism interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.03		.12***	
Gender		-.16		-.34***
Step 2	.11***		.07***	
Gender		-.16		-.31***
Global self-esteem		-.33***		-.15
Narcissism		.27***		.29***
Step 3	.03**		.002	
Gender		-.17		-.31***
Global self-esteem		-.34***		-.15
Narcissism		.30**		.30***
GSE x Narcissism		-.16		-.04
n	214		214	

Note: ** $p < .01$. *** $p < .001$. GSE= Global Self-esteem

2.7.3 Relationships between Implicit Self-Esteem and Aggression

In order to investigate hypothesis 3, zero-order correlations between implicit (and explicit) self-esteem with aggression were conducted, as in Table 2.6.

Explicit self-esteem (ESE) and aggression. The results relating to ESE are merely a reproduction of those stated earlier (i.e., GSE).

Implicit self-esteem (ISE) and aggression. ISE did not demonstrate significant relationships with any aggression outcomes.

There was a small but significant correlation between implicit and explicit self-esteem (r = .17). This is in line with other previous studies (Bosson et al., 2000; Greenwald & Farnham, 2000).

Table 2.6. Zero-order correlations between self-esteem and aggression variables (N = 214).

	(1)	(2)	(3)	(4)
(1) Explicit SE	-	.17**	-.19**	.02
(2) Implicit SE		-	.03	.05

Note: ** p < .01. *** p < .001. SE = Self-esteem.

A series of hierarchical multiple regression analyses were conducted to examine whether explicit and implicit self-esteem and their interactions are predictive of reactive and proactive aggression. Table 2.7 summarises the results of each aggression variable regression analysis. Participant gender was entered as a control variable at step 1 of each regression model. At step 2, explicit and implicit self-esteem scores

were entered to determine their unique relationship with each aggression outcome. Finally, the explicit x implicit self-esteem interaction term was entered at step 3. Similar to previous regression analyses, at each step of the model, the ΔR^2 value was inspected to determine whether the newly added variables resulted in a significant improvement in outcome prediction. Where prediction had been significantly improved, individual β values were examined to determine which variables demonstrated a unique significant influence on the aggression outcome.

Reactive Aggression. Gender was not statistically significant at Step 1. After entry of explicit and implicit self-esteem at Step 2, the total variance explained by the model as a whole was 7.6%, F (3, 207) = 5.7, $p < .01$. The interaction term at Step 3 was not significant. Explicit self-esteem was the best predictor ($\beta = -.23$, $p < .01$), after controlling for gender.

Again, as both subtypes of aggression are correlated, the analysis was repeated by controlling proactive aggression (along with gender) at Step 1, explaining 31.1% of the variance in reactive aggression. After explicit and implicit self-esteem were entered at Step 2, the total variance that explained the model was improved by an additional 4.2%, F (4, 206) = 28.06, $p < .001$. The interaction term did not appear to be statistically significant. In the final model, only explicit self-esteem was predictive of reactive aggression ($\beta = -.21$, $p < .001$), after controlling for gender.

Proactive Aggression. After entry of gender at Step 1, the model was significant F (3, 207) = 9.17, $p < .001$, explaining 11.5% of the variance in proactive aggression. The

entry of self-esteem variables and their interactions at Steps 2 and 3 did not further improve the prediction of the aggression outcome.

To isolate the unique attributes of proactive aggression, the analysis was repeated by additionally controlling for reactive aggression at Step 1. The model explained 37.4% of variance in proactive aggression, with reactive aggression being significant, as would be expected ($\beta = .52$, $p < .001$). The self-esteem variables and their interactions were not significant at Steps 2 and 3.

Table 2.7. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, implicit self-esteem, and explicit x implicit self-esteem interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.03		.12***	
Gender		-.16		-.34***
Step 2	.05**		.002	
Gender		-.19**		-.34***
Explicit self-esteem		-.23**		-.03
Implicit self-esteem		.07		.04
Step 3	.01		.01	
Gender		-.19**		-.35***
Explicit self-esteem		-.23***		-.03
Implicit self-esteem		.07		.04
ESE x ISE		-.09		-.09
n	211		211	

Note: ** $p < .01$. *** $p < .001$. ESE = Explicit Self-esteem. ISE = Implicit Self-Esteem.

2.8 Discussion

The results appear to support our main hypotheses, that low levels of global self-esteem are related to reactive aggression. Generally, this finding supports previous findings showing that low self-esteem contributes to aggressive acts or behaviour (e.g., Bushman et al., 2009; Donnellan et al., 2005). Individuals with low levels of global self-esteem may be aggressive as a way to protect and defend themselves from inferiority and inadequacy, hence they externalize their blame on their weaknesses and failures by acting out and being aggressive to others (Ostrowsky, 2010).

Conversely, high levels of narcissism were associated with proactive aggression (e.g., Baumeister et al., 2000; Martinez et al., 2008; Reidy et al., 2008). The over-inflated self-views make them feel entitled to harm others to achieve their goals. In social life, narcissistic individuals strive for dominance, so they may assault others merely to subjugate and intimidate them, as well as to be admired. The desire to be superior to others may lead them to simply disregard and exploit the rights and feelings of others. Therefore, physiological reactions that are associated with aggressive arousal (i.e., anger and hostility) may not necessarily be present. These findings replicate those of previous studies (e.g., Seah & Ang, 2008) and are also consistent with the work of others (e.g., Donnellan et al., 2005; Maples et al., 2010). However, in terms of component factors, current findings reveal that maladaptive (entitlement, exploitativeness, and exhibitionism) but not adaptive narcissism (authority, self-sufficiency) that was linked to both types of aggression, and with a stronger association with proactive than reactive aggression. This is in line with Barry et al. (2007), Bushman and Baumeister (1998), and Martinez et al. (2008), suggesting that narcissists may also perpetrate aggression in response to an external threat to one's

self-view. It is no doubt exploitativeness and sense of entitlement (Hepper et al., 2014; Reidy et al., 2008) that symbolize psychopathological core, and have been commonly associated with various forms of maladjustment (Fossati et al., 2010; Wink, 1991).

The other main purpose of this study was to examine the roles of explicit and implicit self-esteem in predicting types of aggressive behaviours and traits. Despite the high inter-correlation between the different forms and functions of aggression, explicit self-esteem (similar to global self-esteem measured using the MSEI) showed a relationship with only one type of aggression. In line with several other studies (e.g., Donnellan et al., 2005; Von Collani & Werner, 2005), it was found that explicit self-esteem was negatively related to reactive aggression on the RPQ. However, implicit self-esteem, at least as measured by our current IAT technique, showed no direct relationship with any form of aggression. Whilst direct relationships between implicit self-esteem and other variables appear to be rare, there is evidence that implicit self-esteem can serve to modify or interact with the relationship between explicit self-esteem and the behaviours of interest. In the present investigation, there was an attempt to look at the interaction between explicit and implicit self-esteem in predicting aggression, however, no interaction effect was found.

To date, there may be only two research studies that have also looked at aggression and implicit self-esteem. Sandstrom and Jordan (2008) measured teacher-reported aggression in children and measured implicit self-esteem using an IAT similar to the one used in the present study. No direct relationship was found between these measures. Schröder-Abé, Rudolph, and Schütz (2007) used a measure of the outward manifestations of anger in a young adult population, and also used the IAT to measure

implicit self-esteem. Again, no relationship was found. Hence, the few studies that are relevant have not produced any evidence for a direct relationship between implicit self-esteem and aggression. This may be due to limitations in our ability to measure implicit self-esteem. Further work is therefore needed to verify this finding.

2.8.1 Limitations

This investigation has some limitations that are due largely to the reliance on self-report measures. It is quite feasible that people may not honestly report their aggressive behaviour (or that some individuals may over-report) for social desirability reasons, or to exaggerate their self-image. In the present investigation, the participants' responses were anonymous, and it was hoped that such distortions were kept to a low level. Nevertheless, it would be of value to look for behavioural measures of aggression, such as those used in the studies by Maples et al. (2010) and Webster (2007).

Self-report measures may also suffer from a lack of insight and validity to accurately describe one's view of self. Indeed, some influential theories, such as the Cognitive-Experiential Self-Theory (CEST; Epstein, 1980) place great weight on preconscious processes that direct behaviour, including those related to self-esteem. While such preconscious processes may come into consciousness to be reported by direct measures, they may be better measured by indirect or behavioural measures. The increasing literature on the use of indirect measures to examine self-esteem (Greenwald & Banaji, 1995) may well prove useful in investigating the link between aggression and self-esteem (Schröder-Abé, Rudolph, & Schütz, 2007).

Another limitation is the sample. In particular, university students are not renowned for their high levels of aggression, a limitation that is further exaggerated by the high proportion of females included in the sample. It would be of great interest to see if similar relationships between self-esteem and aggression hold true in samples that have far greater levels of aggression, such as male adolescents or in forensic settings.

2.9 Conclusions

These data support the hypotheses that low self-esteem and high narcissism have separate relationships with proactive and reactive aggression. There was mixed evidence that different forms of self-esteem are related to different forms of aggression. Low self-esteem is a trait that predisposes people to displaying aggressive behaviours, possibly due to the feelings of inferiority that lead to feelings of hostility and anger, which in turn lead to greater reactivity or provocation. Being aggressive is a way to protect such individuals against this inadequacy, so they externalize blame for their problems and react aggressively (Locke, 2009).

On the other hand, narcissism appears to be specifically related to proactive aggression, and maladaptive narcissism clearly predisposes a person to both reactive and proactive aggression. Many professionals are charged with the management of people with aggressive histories. Measurement of levels of self-esteem, including levels of narcissism, may well prove fruitful in the management and risk assessment of such individuals. Further, if a causal link can be established, treatments based on manipulation of self-esteem may be of potential value in reducing levels of future aggression.

CHAPTER 3

CROSS-CULTURAL COMPARISONS

3.1 Introduction

The rules or expectations of behaviour – or norms – vary across cultures. A certain type of behaviour that is regarded as being aggressive in one culture may not be considered aggressive in another. Understanding cultural differences with respect to types of aggression is imperative, as there are many possible factors that can influence cultural differences in aggressive behaviour. In particular, one important variable to consider would appear to be the culture's level of individualism and collectivism (Hofstede, 1980) that at the end will reflect through how a person perceives his or herself.

The findings obtained from the previous chapter are more generalizable to normal samples in the UK. As one of the interests of this thesis was to explore the pattern of the relationships between self-esteem and aggression in an international sample, we sought to look at the variations across cultures that have different values. Moreover, all cultures develop mechanisms to regulate conflict and aggression (Chiu & Hong, 2006; Forbes, Zhang, Doroszewicz, & Haas, 2009), as well as mechanisms for their expression that have a huge discrepancy across societies (Fry, 2001).

3.2 Different Cultural Values

Culture is defined by a construction of the world-view, and is transmitted by individuals and collectives through socialization and enculturation. In studying

cultural differences among members of distinct national groups, researchers have examined the concept of individualism and collectivism. These dimensions of cultural-level values have been derived from the works of Hofstede (1980). The concepts of individualism and collectivism explain the relationships between the individual and the collective society (Bergeron & Schneider, 2005; Coon & Kemmelmeier, 2001; Oyserman, Coon, & Kemmelmeier, 2002). Individualism and collectivism have been assumed to affect the individual's self-construal, self-concept, well-being, attribution style, and relationality in terms of the way in which a person relates to the world around them (Oyserman et al., 2002). An individual's uniqueness as individualist or collectivist is specified through the degree to which the individual describes his or her personal characteristics, values, and achievements rather than their membership in important social groups (Haar & Krahé, 1999). In general, individualism is associated with Western cultures and collectivism is associated with Eastern cultures (Triandis, 1995). There are large cultural variations within the Eastern and Western that allow similar cross-cultural comparisons.

3.2.1 Individualism versus Collectivism

3.2.1.1 Individualism

Individualism is characterised by unattached or loose connections between individuals, whereby there is a greater sense of commitment to the individual than to a particular group. The philosophical system of an individualistic society focuses on the rights and benefits of the individual, in which they are expect to assert and defend their rights. People from individualistic cultures tend to view themselves as unique entities and independent from one another (Coon & Kemmelmeier, 2001; Markus &

Kitayama, 1991; Oyserman et al., 2002). The individualist fosters the individual's needs and self-interests (Coon & Kemmelmeier, 2001; Oyserman et al., 2002), centralizes the individual's self-determination and self-actualization, and also believes in independence and autonomy (Coon & Kemmelmeier, 2001). According to Hofstede (1980), individualism is defined as "a focus on rights above duties, a concern for oneself and immediate family, an emphasis on personal autonomy and self-fulfilment, and the basing of one's identity on one's accomplishments."

Individualism impacts on the individual's psychological functioning in several different areas. An individualist self-concept is indicated by good feelings about the self, personal success, and having many unique or distinctive personal attitudes (Oyserman et al., 2002; Oyserman & Markus, 1993). Individualists believe that open emotional expression and personal goal achievement are important sources of well-being and life satisfaction (Markus & Kitayama, 1991). There are norms of equity that apply in their relationships, these being aimed at balancing the costs and benefits of relationships. Thus, when the cost of participating in the relationship exceeds the benefits, they would withdraw from the relationships or groups (Oyserman et al., 2002; Oyserman, 1993). Therefore, Oyserman et al. (2002) contends that relationships and group memberships for the individualists are impermanent and non-intensive. Those from individualistic cultures tend to ascribe more to independent self-construal than interdependent self-construal (Singelis, 1994). Independent self-construal means that the "bounded, unitary, stable" self is separate from social context. This includes the focus on (1) internal abilities, thoughts, and feelings, (2) being unique and expressing the self, (3) realizing internal attributes and promoting one's own goals, and (4) being direct in communication (Singelis, 1994). Therefore, a highly individualistic person

has a perception of himself or herself that is based on individual attributes, characteristics, or goals, rather than relational or contextual factors (Singelis, 1994).

Cultures that are commonly thought of as high in individualism include those in the United Kingdom (Hofstede, 1984, 1991; Tafarodi & Smith, 2001), United States (Forbes et al., 2009; Oyserman et al., 2002), Austria (Owens, 1996), Finland (Lagerspetz, Björkqvist, & Peltonen, 1988; Salmivalli & Helteenvuori, 2007), German (Haar & Krahé, 1999), and many more.

3.2.1.2 Collectivism

In contrast, collectivism is characterised by closer connections between individuals, and larger commitment to the group than to the individual. The philosophical system of collectivism highlights the importance of social harmony, the avoidance of conflict, and obligations to others (Hui & Triandis, 1986; Markus & Kitayama, 1991; Xu, Farver, Schwartz, & Chang, 2004). In addition, it focuses on the importance of group goals over individual goals (Coon & Kemmelmeier, 2001). Collectivism can be taken as a social way of being that is orientated toward in-groups such as family, ethnic, religious, or other groups (Oyserman et al., 2002).

There are several ways in which collectivism can have an impact on self-concept. For instance, an individual's sense of identity (Markus & Kitayama, 1991) is fundamental to group membership. Thus, personal traits such as being able to sacrifice for the common good, and being able to maintain harmonious relationships with close others (Forbes et al., 2009; Markus & Kitayama, 1991; Oyserman, 1993) are greatly valued. Collectivists believe that life satisfaction arises from successful implementation of

social roles and avoidance of failures in these domains (Markus & Kitayama, 1991). Instead of the open and direct expression of personal feelings, there is a restriction of emotional expression that is likely to be valued as a means of ensuring in-group harmony (Oyserman et al., 2002). Collectivist values also imply that "group memberships are ascribed and fixed, viewed as 'facts of life' to which people must accommodate, boundaries between in-groups and out-groups are stable, relatively impermeable, and important" (Oyserman et al., 2002, p. 5). Therefore, those from collectivistic cultures attribute more to interdependent self-construal than independent self-construal (Singelis, 1994). An interdependent self-construal highlights on (1) external, public features such as status, roles, and relationships, (2) belonging and fitting in, (3) occupying one's proper place and engaging in appropriate action, and (4) being indirect in communication and "reading others' minds" (i.e., others' indirect communications; Singelis, 1994).

Cultures that are commonly thought to be high in collectivism include those in China (Oyserman et al., 2002), Indonesia (Haar & Krahé, 1999), Japan (Ohbuchi, Fukushima, & Tedeschi, 1999; Ohbuchi & Takahashi, 1994), Italy (Oyserman et al., 2002), Russia (Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998), and Malaysia (Burns & Brady, 1992; Tafarodi & Smith, 2001).

3.3 Levels of Aggression in Different Cultures

Although aggression has been termed as a universal feature of human social relations, cultural variation in aggression implies that culture might play an important role in shaping or moulding this behaviour. As such, the dimensions of individualism-collectivism may influence the degree to which members of a society use aggression.

Societies of individualistic culture are more receptive of aggressive behaviour than those of the collectivistic culture (Bergeron & Schneider, 2005). The use of aggression in individualistic cultures may aid individuals in achieving their personal goals. Conversely, aggression in collectivistic cultures is less acceptable as it would affect the social harmony in society, hence impairing collectivity.

The levels of aggression may also depend on the social organization of societies and the strategies used to uphold the social order. In certain cultures, aggression is used as a coercive attempt to regulate social control (Tedeschi, Smith, & Brown, 1974). Therefore, it is alleged that aggression is higher in cultures that place great emphasis on the values of hierarchy, status, and power implementation to sustain the social order (i.e., societies that are characterised by high "power distance")[6] than in cultures that emphasize equality among the members and have high moral restrictions (Bergeron & Schneider, 2005). Furthermore, based on the frustration-aggression theory, which states that aggression is result of frustration (Dollard et al., 1939), there is a greater possibility that reactive aggression occurs in a culture where there are unequal opportunities (i.e., high power distance). Thus, frustration among the less powerful may lead to the occurrence of aggression. Bergeron and Schneider (2005), in support, demonstrated that peer-directed aggression was found to be lower in cultures that are characterised by collectivistic values, high moral discipline, high levels of egalitarian commitment, low uncertainty avoidance, and those which emphasize values that are heavily Confucian. In a relative comparison between cultures, Forbes et al. (2009) found that both direct and indirect aggression were higher in the US (representative of

[6] High value on power distance were characterized by a high use of coercion, authoritarian attitudes, low levels of interpersonal trust and cooperation, and a high value placed by parents on obedience of children (Hofstede, 1980).

the individualistic value) than in Poland (intermediate levels of individualistic and collectivistic), and China (representative of the collectivistic value).

Despite the fact that many studies have compared levels of aggression across cultures (e.g., Archer, 2006; Österman et al., 1998), data relating specifically to reactive and proactive aggression are still sparse (Fung, Raine, & Gao, 2009). As most existing studies that have investigated this aggression typology were conducted in Western societies (e.g., Poulin & Boivin, 2000; Raine et al., 2006), there is a concern as to whether proactive aggression can be meaningfully differentiated from reactive aggression in Asian cultures. For instance, Chinese culture has been described as being collectivist and high in power distance, whereas Western cultures are described as being individualist and low in power distance (Hofstede, 2001). Although it would be expected that a collectivist Chinese culture is related to lower levels of aggression, the high power distance characteristics (i.e., acceptance of unequal distribution of power, use of coercion, and authoritarian attitudes) has been associated with higher levels of crime and violence (Hofstede, 1980). As mentioned previously, cultures high in power distance have higher levels of aggression (Bergeron & Schneider, 2005). Therefore, given these cultural differences, it is unclear if Western concepts of proactive and reactive aggression apply in the same way in East Asian societies.

Nevertheless, recent studies have demonstrated cross-cultural generalizability of the reactive and proactive subscales in the RPQ (Cima, Raine, Meesters, & Popma, 2013; Fossati et al., 2009; Fung et al., 2009). In fact, this has been operationalized successfully in different individualistic cultures (e.g., Fite & Colder, 2007; Raine et al., 2006; Salmivalli & Helteenvuori, 2007), collectivistic cultures (Fung, Gerstein,

Chan, & Engebretson, 2015; Seah & Ang, 2008; Xu & Zhang, 2008), and even in cultures that combine both individualistic and collectivistic features such as Turkey (Bas & Yurdabakan, 2012).

Gender Differences

In general, substantive evidence exists showing that boys and men are more physically and verbally aggressive than girls and women (e.g., Buss & Perry, 1992). However, it is less clear as to whether meaningful gender differences exist in reactive and proactive aggression, especially in different cultures and contexts. In an East Asian population of 5,615 school children, Fung et al. (2009) found significant main effect for gender on proactive aggression, with boys being more proactively aggressive than girls. In contrast, there were no gender differences in reactive aggression. Results from Western (Raine et al., 2006) and Turkish (Bas & Yurdabakan, 2012) samples have replicated these findings. However,, Fung et al. (2009) pointed out that direct comparisons between levels of reactive and proactive aggression were impossible due to difficulties in equating samples on dimensions such as grade levels, and possible differences in questions due to translation.

Conversely, the levels of aggression in an ethnically diverse urban sample of 9-10 year old twins (N = 1219) were compared in the United States (Baker, Raine, Liu, & Jacobson, 2008), comparing Asian-American and Caucasian children. The Asian-Americans reported lower levels of reactive aggression than most ethnic groups, but they did not differ from Caucasians in terms of proactive aggression. African–Americans, however, scored higher than other ethnic groups on all measures of aggression. In a Finnish sample, both reactive and proactive aggression were higher

for boys when compared with girls (Salmivalli & Nieminen, 2002). Unfortunately, data for adult populations are rare (Polman, de Castro, Koops, van Boxtel, & Merk, 2007). In a large sample of adults, Murray-Close, Ostrov, Nelson, Crick, & Coccaro (2010) failed to find gender differences in overall levels of relational aggression, yet males were found to engage more in peer-directed proactive aggression.

Given established gender differences across cultures, it also seems important to study gender differences in reactive and proactive aggression. Inconsistencies in the possible effect of gender on the relationship between reactive and proactive aggression leads to the investigation of this participant characteristic.

3.4 Different Levels of Self-Esteem

3.4.1 Cross-Cultural Comparisons of Explicit Self-Esteem

Cultural differences in self-esteem have been the subject of a great deal of research. Evidence demonstrates the existence of important cultural differences, in which most studies have shown that the self-esteem levels of collectivistic societies are lower, relative to individualistic societies. Schmitt and Allik (2005) examined data from 53 countries using the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) and showed that Japanese college students scored the lowest of all nations (M = 25.5), somewhat above the nominal midpoint of 25. Hong Kong (M = 27.54) and Taiwan (M = 28.77) also obtained lower scores than most nations. This shows that the Japanese and many East Asian participants score towards the midpoint of the scale, while their North American counterparts score at the upper end of the scale. Their findings are consistent with the frequently observed tendency of the Japanese to report lower self-

esteem than those from Western countries such as the United States (Kobayashi & Brown, 2003; Yamaguchi et al., 2007), Canada (Campbell et al., 1996; Tafarodi et al., 2011), and Australia (Feather & McKee, 1993). These distinctions may possibly be taken to indicate that self-esteem is a culturally bounded construct, experienced differently in different cultures. Alternatively, they may indicate that self-esteem is a universally relevant construct whose average level is altered in different cultures (Brown, Cai, Oakes, & Deng, 2009).

Cultural distinction is assumed to originate from cross-cultural differences in self-construal (Markus & Kitayama, 1991). These differences are likely to have implications for the ways in which a certain culture shapes the experience and expression of self-esteem. In accordance with the individualistic cultures, the self is predominantly an independent entity, hence people tend to think of themselves in ways that make them distinguishable from others. Some theorists speculate that Westerners experience a desire to feel good about themselves (Heine, Lehman, Markus, & Kitayama, 1999; Markus & Kitayama, 1991). On the contrary, the Eastern societies (i.e., Japan) do not have such a desire, and may even accept that they are worse than the average (e.g., Brown, 2003). Such a thing happens in the collectivistic cultures as the self is an interdependent entity, and therefore people tend to think about themselves in ways that emphasize their connectedness with others rather than their uniqueness or superiority (Kobayashi & Brown, 2003). The collectivistic cultures are also less boastful about their talents and competencies (Heine, Kitayama, & Hamamura, 2007; Tafarodi & Swann, 1996). Hence, collectivistic societies are less susceptible to exhibiting some self-enhancing biases, such as unrealistic optimism (Heine et al., 1999). Another reason that may explain the cultural distinctions in levels of self-

esteem is that the Japanese and other East Asians honestly judge themselves more modestly (or critically) than the Westerners (Heine, 2003; Heine & Hamamura, 2007; Kitayama, 2006). In addition, Heine et al. (1999) attribute this discrepancy to the collectivistic culture of Japan, which adheres to integrating themes comprising self-criticism, self-improvement, self-discipline, an external frame of reference, and maintaining face. However, not all of the evidence supports the existence of cultural differences. This is due to the self-report measure of self-esteem (i.e. RSES) that demonstrated remarkably similar psychometric properties (e.g., factor structure, internal reliability) across nations (Schmitt & Allik, 2005). The similar pattern of relatedness that self-esteem yields with extraversion (positive) and neuroticism (negative) in every nation involved, also suggest a universal equivalence in the experience and expression of self-esteem (Kobayashi & Brown, 2003).

Narcissism, which is a particular form of inflated self-esteem (characterised by people who have a grandiose view of their own talents along with a craving for admiration) is positively correlated with self-esteem (e.g., Raskin et al., 1991). Hence, narcissism appears to follow the same pattern as self-esteem with respect to cross-cultural differences. For instance, people from the United States show the highest narcissism scores, and when countries were grouped into high and individualistic groups, the high individualistic group obtained the higher narcissism score (Foster, Campbell, & Twenge, 2003). Others, however, have reported a different pattern of results. Chinese people were found to be more narcissistic than their American counterparts, and the Japanese were less narcissistic than these groups (Fukunishi et al., 1996). Likewise, significant differences can even be found within a single country (Plaut, Markus, & Lachman, 2002).

3.4.2 Cross-Cultural Comparisons of Implicit Self-Esteem

To date, published studies that have investigated implicit self-esteem across various cultural groups are considerably scarce. Previous research has found that implicit self-esteem might be universally positive in the sense that people may view themselves more positively than they view others (i.e., best friend, students and generic others; Kitayama & Uchida, 2003; Kobayashi & Greenwald, 2003; Yamaguchi, Greenwald & Banaji, et al., 2007). However, the positive universality in implicit self-esteem may be due to the similarities of child-rearing practices such as inculcating unconditional love and complimenting young children with praise (Yamaguchi et al., 2007). These kind of early experiences may foster self-positivity among people across different cultures. Comparisons of levels of implicit self-esteem in different cultures that hold different values have not been as straightforward. Although a number of studies have suggested that implicit self-esteem is positive for Japanese participants, the results of a study by Kobayashi and Greenwald (2003) only showed a trend towards high implicit self-esteem, yet it was insignificant. Yamaguchi et al. (2007) used an IAT task (i.e. examining associations with the self in comparison to "in-group others") and found that the Japanese displayed a significantly greater implicit self-esteem than their Chinese and American counterparts. Apparently such findings conflict with the theory that regards the Japanese culture as one which can be characterized by high a degree of interdependence, interpersonal harmony, and a culture that is less in need of positive self-regard or self-enhancement (e.g., Heine et al., 1999; Markus & Kitayama, 1991). The difference between the Chinese and Japanese levels of implicit self-esteem may in part suggest that the East Asian cultures are not necessarily homogeneous in terms of self-concept (Oyserman et al., 2002).

There are various methods utilised to evaluate implicit self-esteem in these cross-cultural studies – and some are more reliable than others (e.g., Bosson et al., 2000). Among the other various techniques for evaluating implicit self-esteem at the cross-cultural level are the name-letter effect (Kitayama & Karasawa, 1997) and semantic priming procedure (Hetts, Sakuma, & Pelham, 1999). In recent years, the Implicit Association Test (IAT; Greenwald & Farnham, 2000; Greenwald et al., 1998) has been applied to the evaluation of cross-cultural distinctions in implicit self-esteem. It has been suggested that inconsistencies between studies might reflect the various methodologies used in the IAT (Szeto et al., 2009).

However, specific comparison categories used in the IAT task differ across studies. For example, unlike the conventional IAT that uses word stimuli and measures response latencies with a computer, Kitayama and Uchida (2003) manually presented participants with an example of handwriting of their best friend or another generic person. Participants must tap their right or left knee to categorize the concepts and attributes. Similarly, Yamaguchi et al. (2007) used idiographic information of self and friend for the self-versus best friend IAT, and have also used the self-versus generic in-group others on their samples. Self was more positively viewed than a friend for both Japanese and American cultures (Kitayama & Uchida, 2003; Yamaguchi et al., 2007). In contrast, Kobayashi and Greenwald (2003) utilised three separate IATs that compare self (e.g., me, I) to generic others (e.g., they, them), best friend (e.g., friend, pal) to generic others, and students at the participants' university to generic others. The IAT effect for the friend versus generic other was greater than the self-versus generic other, which at least implies that there were more positivity towards friends than towards the self.

3.5 Cross-Cultural Comparisons: Self-Esteem and Aggression

Although individually, self-esteem and aggression are two general research topics in the psychological literature, research on the relationship between the two are scarce when it comes to cross-cultural investigations. The vast majority of studies on the relationship between self-esteem and aggression were conducted in Western countries. Donnellan et al. (2005), for example, have found a robust relationship between low self-esteem and externalizing problems, including aggression amongst adolescents and college students of different nationalities (United States and New Zealand). Their findings, that used measures based on self-report, and both teacher and parent ratings, also suggest that the effect of self-esteem on aggression is independent of narcissism (which positively correlated with aggression). Paulhus, Robins, Trzesniewski, and Tracy (2004) supported these findings using samples of undergraduate students from the United States and Canada. Conversely, among a sample of 644 male prison inmates in the United States, high self-esteem predicted violent behaviour for white but not black prisoners, indicating that this relationship may be race-specific (Gillespie, 2005).

Using an Asian sample in Singapore, Ang and Yusof (2005) distinguished 317 aggressive and nonaggressive school children (176 boys and 194 girls, aged between 10 and 17) on their narcissism and self-esteem scores. They found that aggressive students scored significantly higher on narcissism compared to nonaggressive students. However, aggressive and nonaggressive students did not differ significantly with respect to self-esteem scores. These results also provide preliminary support for the possibility that whilst narcissism and high self-esteem are rather superficially similar, these constructs are conceptually and empirically discrete.

Öngen (2010) examined the relationships between sub-dimensions of narcissism and aggression in Turkish youths. Using the Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992), the maladaptive factor of narcissism (i.e., Exhibitionism) was found to positively associate with physical aggression hostility and anger. The results of Öngen's work are consistent with the study by Donnellan et al. (2005) that shows a positive relationship between narcissism with dimensions of aggression, except for hostility. A similar positive association was also demonstrated by Locke (2009).

Most studies examining the relationship between aggression and self-esteem have not distinguished between proactive and reactive aggression. There is also a paucity of research that provides support from a cross-cultural standpoint for differential correlates between self-esteem, narcissism and reactive and proactive aggression. And to my knowledge, there is no research that has examined both implicit and explicit self-esteem when studying this relationship. To date, the only study relevant to the current investigation that has been conducted on an Asian sample was by Seah and Ang (2008). They presented a preliminary attempt to illustrate the generalizability of existing findings on the distinction between the two subtypes in an Asian context. They investigated the relationship between reactive and proactive aggression and narcissism, anxiety, schizotypal traits, and interpersonal relations in a sample of 698 Asian adolescents from Grades 7 to 9. Proactive aggression was found to be significantly associated with narcissism, whereas reactive aggression was significantly associated with anxiety, schizotypal traits, and poor interpersonal relations. Unfortunately, no self-esteem variables were taken for comparison.

3.6 Aim of the Chapter

The aim of this chapter is to look at the pattern of relationships between self-esteem, narcissism, and various types of aggression (i.e., reactive and proactive aggression) in the Asian population. There is little published research on the interrelationships between aggression, self-esteem and narcissism (e.g., Ang & Yusof, 2005) as most studies in this area have been conducted on adult samples from the Western nations. Therefore, it might be suggested that using Asian samples, particularly Malaysia, is a largely unexplored territory, particularly, with the use of an implicit measure. The same methodology that was used on the UK sample (Chapter 2) was attempted on a sample of students from Malaysian universities. As Malaysia represents a collectivist culture (Bochner, 1994; Burns & Brady, 1992) and Britain an individualist one (Hofstede, 1980), the study of these samples provided an opportunity to conduct appropriate comparative tests of the hypotheses. On the basis of previous findings in the literature, the main hypotheses were:

1. Self-esteem would be negatively associated with aggression, and with reactive aggression in particular.
2. Narcissism would be positively associated with aggression, and with proactive aggression in particular.
3. There would be a relationship between implicit self-esteem and aggression.

Possible differences in the levels of aspects of self-esteem and aggression would be anticipated, such that the individualistic society might be expected to demonstrate higher levels of self-esteem and reactive, but not proactive, aggression, when compared with their counterpart. In spite of these differences, there is no *a priori*

reason to believe that the relationships between measures of self-esteem and aggression would be different between the countries. In addition to these major hypotheses, we might expect to see some gender differences in relation to the overall levels of aggression. In particular, it is expected that males would be more aggressive than females.

3.7 Methods

3.7.1 Sample

Participants were 288 students (153 males; 135 females) recruited from both public and private universities in Malaysia. Their age ranged from 19 to 39 years (M = 22.65, SD = 2.51). The majority of participants described themselves as Malay (61.1%), followed by Chinese (32.6%), Indian (4.2%), Punjabi (3.3%), and Indigenous (1.7%). There were 62.5% Muslims, 23.6% Buddhists, 6.6% Christians, 4.2% Hindus, 0.3% Sikhs, and 2.8% who did not affiliate with any religion or belief system. A number of 266 (92.4%) were doing their undergraduate degree and the remainder were postgraduate students. Relationship status was fairly mixed, with 66% reporting they were currently single, and 34% reported being in a relationship. The samples were recruited mainly via an advertisement that invited participants to volunteer in an experiment that was looking at various aspects of personality and its relationship with problem behaviours such as violence, and through the announcements of their lecturers.

3.7.2 Measures

As this part of the study is a replication of the study that we have already conducted in the UK, all measures utilised in this study were broadly similar to those described in Chapter 2. However, in order to put the participants at ease and to aid with comprehension of the items, all measures were delivered in two languages: English and Bahasa Malaysia (Malaysian official language). All instructions and items were presented in English, followed by the Malay translation below them (Appendix B2 – B4). This helped the participants whenever they were unclear of certain words. For the Bahasa Malaysia translation, the measures were translated from English into Malay by the researcher, and the Malay version was re-translated into English by two academic researchers.

3.7.2.1 Demographic Measures

The forms were exactly as those previously described for the UK sample (without Malay translation). Demographic forms (see Appendix A1) were divided into Part A and Part B. In Part A, all participants were asked to provide their personal demographic information (name, surname, gender, birth month and place of birth). To preserve participant anonymity, this demographic information was taken as stimuli for the implicit measures and were deleted/destroyed from the database upon the completion of the experimental session. In Part B, participants were asked to provide their age, ethnicity, religion, educational attainment, marital status, and length of relationship (if relevant).

3.7.2.2 Self-Report Measures

Multidimensional Self-Esteem Inventory (MSEI)

The MSEI (O'Brien & Epstein, 1988) is described in Chapter 2. In the present sample, the reliability coefficient for the GSE scale was good, α = .80.

Narcissistic Personality Inventory (NPI).

The NPI (Raskin & Terry, 1988) is described in Chapter 2. The reliability coefficient of the total scale for the current sample was good (α = .78).

Reactive and Proactive Questionnaire (RPQ).

The RPQ is described in Chapter 2. In the present sample, the reliability coefficients were high (Reactive Aggression α = .82; Proactive Aggression α = .85).

3.7.2.3 Implicit Measure

Single Target-Implicit Association Test (ST-IAT)

Implicit self-esteem was evaluated using the same version of the ST-IAT described in the previous chapter. The Bahasa Malaysia translated words were as shown in Appendix B1. For this part of the study, participants were allowed to choose whether they preferred to be tested in English or Bahasa Malaysia. This served to assist with comprehension of the instructions, and ensured minimal confusion and distraction, also from having too much information displayed on the computer screen.

The ideographic self-esteem IAT (Greenwald & Farnham, 2000) examined whether the participants strongly associate themselves with love or hate terms. A series of words related to the target categories were of me versus not-me, whereas attribute categories of love versus hate were presented to them. Response times were compared for trials when me was paired with love (and not-me with hate), and when the opposite response contingency was needed. A positive *D* score, which indicates a high level of implicit self-esteem, is produced if participants respond faster when self-referential terms were paired with love words. Likewise, a negative *D* score is indicative of low implicit self-esteem. Using the Spearman- Brown correction for reliability estimates, the self-esteem IAT demonstrated a split-half adjusted *r-value* of .82, indicating good internal reliability.

3.7.3 Procedure

Following the routine procedure for ethical clearance, all procedures were given approval by the Ethical Committee of the School of Psychology, Cardiff University. Permission was sought and approved by the relevant departments in the particular universities that were involved in this investigation. The Malaysian sample was recruited from public and private universities throughout the Peninsular Malaysia. As no particular electronic system exists for participant recruitment, the study was advertised using posters. Some of the participants were contacted through the researcher's acquaintances that are lecturers from those universities. These lecturers then approached and encouraged their students to participate in the study. Similar to the community study conducted in Cardiff, no age limit was specified in the advertisement. Participation was strictly voluntary and student responses were kept anonymous.

An assistant was employed to help with administering the research sessions. This person received training on the procedures and technical aspects of the research and could consult with the researcher. Volunteers contacted the researcher and signed up for a time slot. Participants were seated in a room with one to three persons for each session. They were informed about the purpose of the study and the procedures were explained to them, including their right to withdraw at any stage of the study. Participants gave written informed consent and then completed the tasks. After the tasks they were given a verbal debriefing together with the debrief sheet. Instead of paying them with cash, they were thanked and presented with a custom made souvenir from Cardiff University as a token of appreciation for their time.

3.7.4 Analyses

Data Treatment

The analyses of the data collected in this experiment were divided into two parts. In Part 1 (a and b), analyses were focused only on the Malaysian sample. Descriptive statistics were computed according to gender groups for all self-esteem and aggression variables. Differences between these groups were then assessed using independent T-tests. The degree of inter-relation between explicit measures of self-esteem (Part 1a), and also between explicit and implicit self-esteem (Part 1b) with aggression were assessed using zero-order correlations. Further, hierarchical multiple regression analyses were used to explore the relationship between the predictors and criterion variables of interest.

In Part 2, the main focus of the analyses was centred on the cross-cultural comparisons. Two-way analyses of variance (ANOVA) were used to compare levels of aggression between the two countries (UK versus Malaysia) and gender (male versus female) as independent variables, and the two types of aggression measures as dependent variables. A series of regression analyses were conducted again in order to examine the pattern of predictors of aggression. The current study also examined whether gender and culture moderate the relationship between self-esteem and aggression.

Prior to the main analyses, the data were inspected against the assumptions that had been made for that particular analysis. Again, the RPQ scale of proactive aggression was found to deviate from a normal distribution, where the skewedness reflects the fact that many participants had the minimum score possible. No data transformation could produce an approximate normal distribution of these data. Nevertheless, this variable was still considered suitable for use in formal analyses, given that the use of regression analysis is not dependent on the presence of normally distributed variables (Tabachnick & Fidell, 2007). Preliminary analyses were conducted to ensure that other assumptions such as multicollinearity, outliers, linearity, and homoscedasticity have not been violated for the regression analyses.

3.8 Results

3.8.1 Sample Averages and Gender Differences

Descriptive statistics of the Malaysian sample are shown in Table 3.1, along with average scores for each variable, both across the sample as a whole and according to gender. In addition, the table shows the results of a series of t-tests used to determine the presence of any significant gender differences. One participant failed to complete the self-report measure of NPI and another person the RPQ. Six refused or failed to complete the self-esteem IAT (ST-IAT) and nine participants have been excluded for analyses due to extreme cases such as extreme errors. These cases were deleted from subsequent analyses.

Similar to the UK sample, the Malaysian males demonstrated significantly higher scores of global (explicit) self-esteem and narcissism than females, though the effect sizes (ES) for both were small (Cohen, 1988). Looking at the subscales of narcissism, both adaptive and maladaptive scores were found greater in Malaysian males than in females. In contrast, Malaysian females showed significantly greater levels of implicit self-esteem than males (small ES).

On the measure of aggression, there was no significant difference in reactive aggression scores for males and females. However, males reported significantly more proactive aggression (small ES) than females.

Table 3.1. Means, standard deviations, and t-tests comparing scores for all variables between males and females.

Variable			Total sample (N = 288)		Males (N = 153)		Females (N = 135)		Group Comparison	Effect Size
	Min	Max	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Explicit (Global) SE	19	45	31.64	5.14	32.27	5.18	30.93	5.01	t = 2.22*	0.26
Narcissism	0	29	13.53	5.84	14.67	5.82	12.24	5.6	t = 3.59***	0.42
• Adaptive Narcissism	0	12	5.27	2.8	6.00	2.89	4.44	2.46	t = 4.91***	0.58
• Maladaptive Narcissism	0	13	5.61	2.73	6.05	2.64	5.12	2.75	t = 2.94**	0.35
RPQ Reactive Aggression	0	20	7.03	3.73	6.88	3.87	7.21	3.58	t = -0.77	-0.09
RPQ Proactive Aggression	0	17	2.75	2.78	3.05	3.11	2.41	2.32	t = 1.96^{+}	0.23

Note: SE = Self-esteem. RPQ = Reactive and Proactive Aggression Questionnaire. $^{+}$ p = .05, *p <.05, **p <.01, ***p <.001. Effect size was calculated using Hedges' g (McGrath & Meyer, 2006).

3.8.2 Relationships between Explicit Self-Esteem and Aggression (Part 1a)

Global Self-esteem (GSE) and aggression. The zero-order correlations between the GSE of the MSEI and aggression are shown in Table 3.2. The pattern of the relationships shown was similar to those found in the UK sample. There was a small, negative correlation between the GSE and reactive aggression, but GSE was not significantly associated with proactive aggression of the RPQ. The magnitude of the correlation did not significantly differ for males and females (z = -0.85, p < .40).

Narcissism and aggression. Table 3.2 also shows the pattern of associations for NPI, which 'mirrored' those found for GSE. Narcissism was not significantly associated with reactive aggression, but was positively associated with proactive aggression. Further, the magnitude of this correlation did not significantly differ for males and females (z = -1.33, p < .18).

As expected, there was a medium strength relationship between GSE and narcissism. Finally, there was also a moderate inter-relation between reactive and proactive aggression, which is comparable to the correlations reported by Raine et al. (2006) and Seah and Ang (2008) between the two subtypes (r = .53 and r = .67, respectively). This indicates that multicollinearity was unlikely to be a problem (see Tabachnick & Fidell, 2007). The correlations with the types of aggression indicate that the data was suitable to undergo further examination through multiple linear regressions.

Table 3.2. Zero-order correlations between global self-esteem, narcissism and aggression (*N* = 288).

Variable	(1)	(2)	(3)	(4)
(1) GSE	-	.47***	-.17**	-.10
(2) Narcissism		-	.06	.17**
(3) Reactive Aggression			-	.61**
(4) Proactive Aggression				-

Note: ** $p < .01$. *** $p < .001$. GSE = Global Self-esteem.

Table 3.3 shows the correlations between the adaptive and maladaptive subscales of narcissism with the subtypes of aggression. Adaptive narcissism was not related to any types of aggression. In contrast, high levels of maladaptive narcissism were associated with high levels of reactive and proactive aggression. However, the magnitudes of these correlations were not significantly differing for males and females (z = -0.62, p = .54 for reactive aggression; z = 0.25, p = .80 for proactive aggression).

Table 3.3. Zero-order correlations between adaptive and maladaptive narcissism with aggression (*N* = 288).

Variable	Reactive Aggression	Proactive Aggression
(1) Adaptive Narcissism	-.05	.08
(2) Maladaptive Narcissism	.19***	.26***

Note: ** $p < .01$. *** $p < .001$.

A three-step hierarchical multiple regression was conducted to assess the ability of explicit measures of self-esteem (GSE and Narcissism) to predict levels of aggression (reactive and proactive), after controlling for the influence of gender. Each aggression outcome was regressed on the self-esteem variables in the following manner. Participant gender was entered as a control variable at step 1 of each regression model.

At step 2, scores from explicit measures of self-esteem were entered to determine their unique relationship with each aggression outcome. Finally, the GSE x narcissism interaction term was entered at step 3. At each step of the model, the ΔR^2 value was inspected to determine whether the newly added variables resulted in a significant improvement in outcome prediction. Where prediction had been significantly improved, individual β values were examined to determine which variables demonstrated a unique significant influence on the aggression outcome. All scores of self-esteem variables were standardised prior to entering the regression analyses, and the results are presented in Table 3.4.

Reactive Aggression. At Step 1, gender was not found to have a significant effect on reactive aggression. After entry of GSE and Narcissism at Step 2, the total variance explained by the model as a whole was 5.3%, F (3, 284) = 5.32, p = .001. In the final model, the interaction term was not significant. Therefore, only GSE and narcissism were statistically significant, with GSE recording a higher beta value (β = -.25, p < .001) than narcissism (β = .18, p < .01).

As reactive and proactive aggression is correlated, a further regression was run in an attempt to isolate the unique variance of reactive aggression, in relation to proactive aggression. In Step 1, proactive aggression was entered along with gender, and the analysis was re-run. The model was statistically significant F (2, 285) = 89.93, p < .001 and explained 39% of variance in reactive aggression. As expected, proactive aggression was a strong predictor of reactive aggression (β = .61, p < .001). Steps 2 and 3 did not significantly improve further prediction of GSE (β = -.11, *ns*) and narcissism (β = .03, *ns)* on reactive aggression.

Proactive Aggression. In the first step, gender again did not show any significant effect in predicting proactive aggression. After GSE and narcissism were entered at Step 2, the variables explained by the model as a whole was 7.5%, F (3, 284) = 7.67, $p < .001$. Finally, the addition of an interaction between GSE and narcissism was not significant, and hence did not improve this model. Both GSE and narcissism were significant predictors of proactive aggression. In particular, lower levels of GSE are predictive of lower levels of proactive aggression ($\beta = -.23$, $p < .001$) but higher levels of narcissism are predictive of higher levels of proactive aggression ($\beta = .26$, $p < .01$).

In an attempt to isolate the unique attributes of proactive aggression, reactive aggression was added as a predictor in Step 1, along with gender, and the analysis was repeated. The model was statistically significant, F (2, 285) = 92.47, $p < .001$. Gender was significant ($\beta = -.14$, $p < .01$), such that females showed a significant increase in proactive aggression scores, and as expected, reactive aggression was strongly predictive of proactive aggression ($\beta = .62$, $p < .001$). At Step 2, apart from reactive aggression, only narcissism demonstrated a significant unique relationship with proactive aggression ($\beta = .15$, $p < .01$), whereas self-esteem was not significant ($\beta = -.08$, *ns*). At step 3, the interaction between GSE and narcissism was not found to significantly improve prediction scores of proactive aggression.

Table 3.4. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, narcissism, and explicit self-esteem x narcissism interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.002		.01	
Gender		.05		-.11
Step 2	.05**		.06***	
Gender		.05		-.09
Global self-esteem		-.25***		-.23***
Narcissism		.18**		.26***
Step 3	.00		.00	
Gender		.05		-.09
Global self-esteem		-.25***		-.23***
Narcissism		.18**		.26***
GSE x Narcissism		-.01		-.02
n	288		288	

Note: ** $p < .01$. *** $p < .001$. GSE =Global self-esteem.

3.8.3 Relationship between Implicit and Explicit Self-Esteem and Aggression (Part 1b)

As shown in Table 3.5, zero-order correlations were utilised to investigate the relationships between explicit self-esteem, implicit self-esteem and aggression variables.

Explicit Self-esteem (ESE) and aggression. The results relating to explicit self-esteem are merely a reproduction of those stated earlier (i.e., GSE).

Implicit Self-esteem (ISE) and aggression. There was a weak but significant correlation between ISE and ESE ($r = .16$, $p < .01$), similar to that found by previous researchers (e.g., Bosson et al., 2000; Greenwald & Farnham, 2000). Implicit self-esteem was not significantly correlated with any aggression outcomes. Although the correlations of the full sample failed to produce significant results in terms of the link between ISE and aggression, the initial descriptive analyses (Table 3.1) showed that there was a significant difference between males and females on the ISE scores, hence ISE was included for the regression analysis.

Table 3.5. Zero-order correlations between the types of self-esteem and aggression (*N*= 288).

Variable	Reactive Aggression	Proactive Aggression
ESE	-.17**	-.10
ISE	.04	-.02

Note: ** $p < .01$. ESE = Explicit Self-esteem. ISE = Implicit Self-esteem.

Hierarchical regression analysis was conducted to examine the ability of explicit and implicit self-esteem to predict levels of aggression (reactive and proactive), after controlling for the influence of gender. Gender was entered at Step 1. The self-esteem measures (explicit and implicit) were entered at Step 2, and interaction between explicit and implicit self-esteem was entered at Step 3. Table 3.6 summarizes the results of the regression analysis for each aggression variable.

Reactive Aggression. At Step 1, there was no significant effect of gender on reactive aggression. Introducing the self-esteem variables at step 2, the total variance explained by the model as a whole was 3%, F (3, 269) = 2.97, p = .03. In the final model, the interaction of ESE and ISE was not significant. ESE was the best predictor for reactive aggression (β = -.18, p < .01), while ISE was not significant.

To isolate the unique attributes of reactive aggression, the above analysis was repeated, with an additional control for proactive aggression at Step 1. The model was significant F (2, 270) = 85.2, p < .001 and explained 39% of the total variance in reactive aggression. As expected, proactive aggression (β = .61, p < .001) increased the scores of reactive aggression, whereas in Steps 2 and 3, the effects of these self-esteem variables and the interaction between them failed to reach significance with ESE (β = - .10, *ns*) and ISE (β = .05, *ns*).

Proactive Aggression. The hierarchical regression model failed to produce any result that fell within the adopted level of significance.

To proceed, the analysis was repeated with an additional control for reactive aggression at Step 1 (along with gender). The model was statistically significant F (2, 270) = 87.6, $p < .001$. Gender increased the scores for proactive aggression (β = -.14, $p < .01$), such that females were more proactively aggressive than males. As expected, reactive aggression was also predictive of proactive aggression (β = .61, $p < .001$). However, self-esteem variables and the interaction term did not further improve the prediction of proactive aggression at Steps 2 and 3.

Table 3.6. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, implicit self-esteem, and explicit x implicit self-esteem interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.002		.01	
Gender		.05		-.11
Step 2	.03		.01	
Gender		.01		-.13
Explicit self-esteem		-.18**		-.12
Implicit self-esteem		.06		.02
Step 3	.001		.001	
Gender		.01		-.13
Explicit self-esteem		-.18**		-.12
Implicit self-esteem		.06		.01
ESE x ISE		-.04		-.04
n	273		273	

Note: ** $p < .01$. ESE = Explicit Self-esteem. ISE = Implicit Self-Esteem

3.8.4 Cross-Cultural Comparisons (Part 2)

In order to explore the impact of gender and culture on levels of aggression, a series of 2 x 2 between-subjects ANOVAs were conducted separately for reactive and proactive aggression as dependent variables, with gender (male, female) and culture (UK, Malaysia) as independent variables. The Levene's test results for both types of aggression demonstrated that the assumption of homogeneity of variances had been violated (reactive, $p = .037$; proactive, $p < .001$). However, the ANOVA is considered to be reasonably robust against violations of this assumption, provided that the size of the groups is sufficiently similar (Pallant, 2010). Hence, a more conservative significance level (.01) was set for the *F*-test (Tabachnick & Fidell, 2007, p. 120), rather than the conventional .05. The strength of the effect size was interpreted according to Cohen (1988). Further, the levels of self-esteem related variables were also explored using a similar analysis and factors.

3.8.4.1 Levels of Aggression

Reactive Aggression. There was no main effect of gender, F (1, 497) = 2.11, *ns*; nor of culture F (1, 497) = .001, *ns*. The interaction effect between gender and culture just failed to reach our stated alpha level, F (1, 497) = 5.66, *ns*.

Proactive Aggression. The main effect of gender on proactive aggression was significant, F (1, 497) = 20.91, $p <$. 001. In particular, proactive aggression was higher in males (M = 2.83, SD = 3.07) than in females (M = 1.54, SD = 2.03). However, the effect size was small (partial eta squared = .04). A significant main effect of culture was also found F (1, 497) = 26.33, $p < .001$, where proactive aggression was higher

for the Malaysians (M = 2.75, SD = 2.78) than the Britons (M = 1.19, SD = 2.02). The effect size was also small (partial eta squared = .05). However, there was no significant interaction between gender and culture, F (1, 497) = 3.57, *ns*.

3.8.4.2 Levels of Self-Esteem

Global (Explicit) Self-esteem. There was a significant main effect of gender, F (1, 498) = 9.64, $p < .01$, indicating that global (explicit) self-esteem levels was significantly higher for males (M = 31.71, SD = 6.14) than for females (M = 29.30 SD = 6.67). However, the effect size was small (partial eta squared = .02). The main effect of culture was also statistically significant F (1, 498) = 17.27, $p < .001$, such that the Malaysian levels of global self-esteem (M = 31.64, SD = 5.14) were greater in comparison with the Britons (M = 28.55, SD = 7.74). The effect size was also small (partial eta squared = .03). The interaction between these variables failed to reach significance, F (1, 498) = 0.83, *ns*.

Narcissism. The main effect of gender on narcissism was significant, F (1, 497) = 19.22, $p < .001$), with males (M = 14.40, SD = 6.24) reporting higher levels of narcissism than females (M = 11.56, SD = 6.12). However, the effect size was small (partial eta squared = .04). Culture showed a non-significant effect, F (1, 497) = 3.51, *ns.* The interaction between these variables also failed to reach statistical significance, F (1, 497) = 0.09, *ns*.

Implicit Self-esteem (ISE). There was no significant main effect of gender on ISE, F (1, 481) = 2.59, *ns*. However, the effect of culture was statistically significant, F (1,481) = 62.82, $p < .001$, such that the ISE levels of the Malaysians (M = 0.52, SD =

0.37) were greater than those of the Britons (M = 0.25, SD = 0.34). The effect size was small (partial eta squared = .12). The interaction effect did not meet the adopted criterion for significance, F (1, 481) = 6.31, *ns.*

3.8.4.3 Relationships between Explicit Self-Esteem and Aggression

Prior to examining the specific hypotheses relating to gender and culture, the zero-order correlations between the self-esteem and aggression variables were inspected in both cultures. In relation to the explicit measures of self-esteem, as expected, global self-esteem and narcissism displayed a medium correlation (r = .47, p < .001) that is in line with the results of many previous studies (e.g., Raskin et al., 1991). There was a strong correlation between reactive and proactive aggression (r = .57, p < .001) a finding that is also consistent with previous work (e.g., Fung et al., 2009).

Global self-esteem (GSE) and aggression. GSE was negatively correlated with reactive aggression (r = -.16, p < .001), but was not significantly associated with proactive aggression (r = .03, *ns)*. However, the correlation coefficient between GSE and reactive aggression was not statistically significant different for males and females (z = -0.23, p = .81).

Narcissism and aggression. On the contrary, narcissism displayed the opposite pattern, where the correlation with reactive aggression did not achieve the level of significance (r = .11, *ns*), but was positively correlated with proactive aggression (r = .47, p < .001). However, the correlation coefficient between narcissism and proactive aggression was not statistically significant different for males and females (z = 0.46, p = .65). In terms of subtypes of narcissism, adaptive narcissism was not associated with both reactive

(r = .03, *ns*) and proactive aggression (r = .09, *ns*). In contrast, maladaptive narcissism was significantly positively associated with both reactive (r = .18, p < .001) and proactive aggression (r = .25, p < .001). The magnitudes of these correlation coefficients were not significantly differing for males and females (z = 1.03, p = .3 for reactive aggression; z = 0.58, p = .56 for proactive aggression).

In order to evaluate the experimental hypotheses, a series of multiple regression analyses were conducted. Firstly, the pattern of consistency (i.e., whether there was any changes on the predictors of the outcome) was assessed on samples from the UK and Malaysia. Gender and culture were controlled for because of the possibility that both have some degree of influence on the variables of interest, even though the effects of the two variables were not of primary concern in this study. Table 3.7 shows the results of these analyses.

Reactive Aggression. At Step 1, both gender and culture were not significant. At Step 2, the variable explained by the model as a whole was 7.5%, F (4, 495) = 9.99, p < .001. Reactive aggression was significantly predicted by low levels of global self-esteem (β = -.28, p < .001), and also by high levels of narcissism (β = .23, p < .001), after controlling for gender and culture. However, there was no interaction between self-esteem and narcissism at Step 3.

The analysis was re-run in an attempt to isolate the unique attributes of reactive aggression, proactive aggression was entered at Step 1, along with gender and culture. The model became statistically significant F (3, 496) = 87.17, p < .001 and explained 35% of the variance in reactive aggression. After entry of global self-esteem and

narcissism at Step 2, the total variance explained by the model was improved by 2%, *F* change (2, 494) = 8.66, $p < .001$. Only global self-esteem improved the prediction of reactive aggression ($\beta = -.17$, $p < .001$), but narcissism was not significant ($\beta = .07$, *ns*). The interaction term entered at Step 3 was also non-significant. Statistically significant predictors were culture ($\beta = -.12$, $p < .01$), proactive aggression ($\beta = .60$, $p < .001$), and global self-esteem ($\beta = -.17$, $p < .001$).

Proactive aggression. At Step 1, proactive aggression was predicted by gender, culture, and the model was statistically significant, *F* (2, 497) = 33.79, $p < .001$. At Step 2, global self-esteem and narcissism were statistically significant and explained 17.4% of the total variance, controlling by gender and culture. Again, the interaction term was non-significant.

Due to the high correlation between both types of aggression, the above analysis was repeated to isolate the unique attributes of proactive aggression. The model was significant when reactive aggression was entered at Step 1 along with gender and culture, *F* (3, 496) = 120.59, $p < .001$ and explained 42% of the variance in proactive aggression. When self-esteem variables were entered at Step 2, the model improved by 1%, *F* change (2, 494) = 5.95 with only narcissism being significant, but not for global self-esteem ($\beta = -.04$, *ns*). The interaction term was not significant at Step 3. The significant predictor of proactive aggression was narcissism ($\beta = .13$, $p < .01$), after controlling for gender ($\beta = -.14$, $p < .001$), culture ($\beta = .24$, $p < .001$), and reactive aggression ($\beta = .53$, $p < .001$).

Table 3.7. Hierarchical regression model of aggression outcomes from explicit measures of self-esteem.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.003		.12***	
Gender		-.04		-.18***
Culture		.03		.25***
Step 2	.07***		.05***	
Gender		-.04		-.16***
Culture		.03		.26***
Explicit self-esteem		-.28***		-.19***
Narcissism		.22***		.25***
Step 3	.003		.000	
Gender		-.04		-.16***
Culture		.03		.26***
Explicit self-esteem		-.29***		-.19***
Narcissism		.23***		.25***
ESE x Narcissism		-.06		-.02
n	501		501	

Note: ** $p < .01$. *** $p < .001$. ESE = Explicit Self-esteem.

3.8.4.4 Relationships between Implicit and Explicit Self-Esteem and Aggression

In consistent with the previous analyses, zero-order correlations were conducted on explicit and implicit self-esteem with aggression outcomes. In relation to the implicit measure of self-esteem, explicit (global) self-esteem was correlated with implicit self-esteem ($r = .23$, $p < .001$).

Explicit self-esteem (ESE) and aggression. These results are merely a reproduction of those stated earlier (i.e., GSE).

Implicit self-esteem (ISE) and aggression. Interestingly, although implicit self-esteem was not related to reactive aggression ($r = .05$, *ns*), it was acknowledged that there was a trend towards the relationship between implicit self-esteem and proactive aggression ($r = .10$, *ns*).

On the basis of a separate regression analysis (Table 3.8) that involved implicit self-esteem, only explicit self-esteem was statistically predictive of reactive aggression ($\beta = -.20$, $p < .001$), whereas implicit self-esteem and the interaction term were non-significant, after controlling for gender and culture. In contrast, proactive aggression was only predicted by gender and culture. Self-esteem variables did not appear to improve the prediction of proactive aggression.

Table 3.8. Hierarchical regression model of aggression outcomes from explicit and implicit measures of self-esteem.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.003		.12***	
Gender		-.04		-.18***
Culture		.03		.25***
Step 2	.04***		.01	
Gender		-.08		-.20***
Culture		.02		.25***
Explicit self-esteem		-.20**		-.08
Implicit self-esteem		.08		.03
Step 3	.004		.002	
Gender		-.08		-.20***
Culture		.02		.25***
Explicit self-esteem		-.20***		-.09
Implicit self-esteem		.07		.03
Explicit x Implicit SE		-.06		-.05
n	483		483	

Note: ** $p < .01$. *** $p < .001$. SE = Self-esteem.

In order to isolate the unique attributes of reactive aggression, proactive aggression was entered at Step 1, along with gender and culture. The model was statistically significant F (3, 480) = 84.36, $p < .001$. At Step 2, the total variance explained by the model as a whole was 36.7%, F (5, 478) = 55.32, $p < .001$. Only explicit self-esteem was significant (β = -.15, $p < .001$), whereas implicit self-esteem was not significant (β = .06, *ns*). The explicit-implicit interaction (Step 3) also did not improve the prediction of reactive aggression, after accounting for culture (β = -.13, $p < .01$) and proactive aggression (β = .61, $p < .001$).

For proactive aggression, the model was statistically significant F (3, 480) = 116.7, $p < .001$ when controlling for reactive aggression with gender and culture at Step 1. It explained 42% of the variance in proactive aggression, with gender (β = -.16, $p < .001$), culture (β = .24, $p < .001$), and reactive aggression (β = .55, $p < .001$) being significant. There was no further improved prediction from explicit self-esteem (β = .03, *ns*), implicit self-esteem (β = -.01, *ns*), or the interaction term (β = -.02, *ns)*.

3.8.4.5 Relationship between Explicit Self-Esteem and Aggression (Moderated by Gender and Culture)

A further regression analysis was conducted in which each aggression type was regressed on to the demographic and self-esteem related variables in three steps (see Table 3.9). At Step 1 of each analysis, gender and country were entered into the regression model. At Step 2, scores for explicit measures of self-esteem related were added to determine the unique contribution they made to aggression scores over and above that accounted for by gender and country (also conducted on implicit self-esteem). At Step 3, interaction terms were added to the model to determine a) whether

gender moderated the relationship between self-esteem variables and aggression, and b) whether culture moderated the relationship between self-esteem variables and aggression. All variables related to self-esteem were centred before being entered into the regression analyses.

Reactive Aggression. As indicated by the ANOVA, gender and culture were not connected with this outcome. At Step 2, self-esteem and narcissism were both predictors in which total variance explained by the model as a whole was 7.5%, F (2, 495) = 9.99, $p < .001$. Similar to what has been described previously, self-esteem and narcissism showed the opposite relationship with reactive aggression, such that higher self-esteem was related to lower levels of reactive aggression, whilst higher levels of narcissism were predictive of higher levels of aggression. All the interaction terms at Step 3 were non-significant.

Proactive Aggression. As demonstrated by the ANOVA, gender and culture were related to this outcome. Step 1 demonstrated that the model is significant, explaining 12% of the variance in aggression. At Step 2, both self-esteem and narcissism significantly improved the predictability of proactive aggression, even when the effects of gender and culture were controlled for F change (2, 495) = 16.32, $p < .001$. Again, both predictors displayed contrasting relationships with proactive aggression, with higher self-esteem being predictive of lower levels of proactive aggression, whilst higher levels of narcissism were related to higher levels of proactive aggression. Unfortunately, no interaction terms were significant.

Table 3.9. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, narcissism, and explicit self-esteem x narcissism interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.003		.12***	
Gender		-.04		-.18***
Culture		.03		.25***
Step 2	.07***		.05***	
Gender		-.04		-.16***
Culture		.03		.26***
Explicit self-esteem		-.28***		-.19***
Narcissism		.22***		.25***
Step 3	.004		.02	
Gender		-.04		-.16***
Culture		.03		.26***
Explicit self-esteem		-.43***		-.17
Narcissism		.48***		.45**
ESE x gender		.01		.13
NPI x gender		-.03		-.16
ESE x culture		.15		-.13
NPI x culture		-.25		-.08
n	501		501	

Note: ** $p < .01$. *** $p < .001$. ESE = Explicit Self-esteem. NPI = Narcissistic Personality Inventory.

3.8.4.6 Relationship between Implicit and Explicit Self-Esteem with Aggression (Moderated by Gender and Culture)

Table 3.10 summarises the regression analysis that was conducted on implicit self-esteem (along with explicit self-esteem) when brought into the model at Step 2, controlling for gender and culture at Step 1. Interaction terms were entered to examine whether gender and/or culture moderated the relationship between self-esteem and aggression.

Reactive Aggression. Step 1 shows that gender and culture were not predictive of the outcome. When self-esteem variables were entered at Step 2, the model was statistically significant F (4, 479) = 5.29, $p < .001$ and explained 4% of variance in reactive aggression. Only explicit self-esteem was predictive of the outcome, such that lower explicit self-esteem was related to higher levels of aggression. The effect of implicit self-esteem, and all the interaction terms were significant.

Proactive Aggression. Gender and culture were predictive of proactive aggression, and the model was significant F (2, 481) = 32.7, $p < .001$, explaining 12% of the variance in the outcome. However, self-esteem variables and the interaction terms failed to improve the prediction of aggression in the latter models.

Table 3.10. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, narcissism, and explicit self-esteem x narcissism interaction.

	Aggression outcome			
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.003		.12***	
Gender		-.04		-.18***
Culture		.03		.25***
Step 2	.04***		.01	
Gender		-.08		-.20***
Culture		.02		.25***
Explicit self-esteem		-.20***		-.08
Implicit self-esteem		.08		.03
Step 3	.001		.01	
Gender		-.08		-.20***
Culture		.03		.25***
Explicit self-esteem		-.25		.03
Implicit self-esteem		.14		.01
ESE x gender		.01		.06
ISE x gender		-.07		.01
ESE x culture		.05		-.17
ISE x culture		-.01		.02
n	483		483	

Note: ** $p < .01$. *** $p < .001$. ESE = Explicit Self-esteem. ISE = Implicit Self-esteem.

3.9 Discussion

The present chapter has examined a series of hypotheses about the relationship between aspects of self-esteem and two forms of aggression (i.e., reactive and proactive) on a Malaysian sample. The data from the Malaysian sample was then compared to the UK sample. These data thus provide the basis for two comparative pictures of aggression in Malaysia and the UK, one of which is collectivistic, whereas the other is more individualistic. The issue of whether gender may play a role in influencing these relationships was also addressed. The present findings using non-clinical samples of university students contribute to the existing literature base by extending research previously conducted primarily on adult and Caucasian populations. Global (explicit) self-esteem and narcissism were both significant predictors of reactive and proactive aggression. However, they displayed the opposite relationship with higher self-esteem, this being related to less reactive aggression, whilst higher levels of narcissism were predictive of higher levels of proactive aggression. Despite the very limited literature (e.g., Baker et al., 2008), the findings of this study indicate that proactive aggression can be meaningfully differentiated from reactive aggression in the Asian (specifically the Malaysian) culture.

Self-Esteem and Aggression

The findings support the first hypothesis that global self-esteem would be negatively related to aggression, and to reactive aggression in particular. The overall sample demonstrated that low levels of global (explicit) self-esteem were significantly associated with higher levels of reactive, but not proactive aggression. The regression analyses showed that self-esteem was a significant predictor of both reactive and proactive aggression. When the unique attribute of each type of aggression was

isolated, self-esteem was only predictive of reactive and not proactive aggression. This suggests that reactive aggression may, in part, reflect the relatively normative and consistently defensive aggressive reaction of some individuals when confronted with any challenge to their social status (e.g., Ostrowsky, 2010). It is also possible that individuals with low self-esteem engage in aggression if they feel helpless, and have a lack of control over themselves (Wallace, Barry, Zeigler-Hill, & Green, 2012).

The second hypothesis that narcissism would be positively associated with aggression, specifically to proactive aggression, was also confirmed. In the combined sample, high levels of narcissism were significantly correlated with higher levels of proactive aggression, but not of reactive aggression. The regression analyses showed that narcissism was a significant predictor of both types of aggression. However, when the unique variance of each aggression was isolated, narcissism was only predictive of proactive and not reactive aggression. These findings support those of previous research (Salmivalli, 2001; Seah & Ang, 2008; Washburn et al., 2004). It is postulated that the connection between narcissism and proactive aggression may be due to the individual´s formation of an instrumental goal. In particular, the desire and aim to maintain their sense of grandiosity and feelings of power over others may translate into self-initiated and exploitative acts of proactive aggression to achieve their goals. Looking further into the adaptive and maladaptive dimensions of narcissism, it was shown that the results were comparable for both UK and Malaysian samples. Both individualistic and collectivistic cultures demonstrated that maladaptive, but not adaptive narcissism trait that was associated with higher tendency for reactive and proactive aggression. To date, at least to our knowledge, there has not been any published work that have looked into these associations, and especially taking into

account that these data derived from two different cultures. The link between maladaptive narcissism and reactive aggression (Bushman & Baumeister, 1998; Papps & O'Carroll, 1998; Twenge & Campbell, 2003) implies that threatened egotism may be important in triggering violence in narcissistic individuals (Fossati et al., 2010). While the positive association between maladaptive narcissistic traits and proactive aggression that is in line with Reidy et al. (2008) suggesting that narcissistic individuals were also prone to act aggressively toward others, even there was ambiguity for potential damage to their self-view.

The current measures of implicit self-esteem (the IAT) failed to show any relationship with the types of aggression according to the adopted criterion of significance (p = .01). If this correlation were to become more apparent, it would be interesting to examine how explicit and implicit self- esteem interact in predicting the aggression outcomes. It is possible that individuals with 'damaged self-esteem' (i.e., combination of low explicit, but high implicit self-esteem) are more prone to exhibiting aggressive behaviour, although this was not the case in the present study.

The general finding that low self-esteem has an impact on aggression independently of narcissism may support the assumption that low self-esteem and narcissism sit at opposite ends of the same continuum (self-hate vs. self-love). However, conceptualizing low self-esteem and narcissism as being at opposite ends of the same continuum leads to the concern that ''the societal pursuit of high self-esteem for everyone may literally end up doing considerable harm'' (Baumeister et al., 1996, p. 29). Thus, the precise relationship between self-esteem and narcissism remains an open question. These findings may possibly be explained through the on-going debates

on several conceptualizations in the self-esteem literature, including whether narcissism is an exaggerated form of high self-esteem, a particular facet of self-esteem, a highly contingent and unstable form of self-esteem, a need to feel superior to others, or a defensive shell of inflated self-esteem that compensates for unconscious feelings of inadequacy (e.g., Campbell, Rudich, & Sedikides, 2002; Kirkpatrick et al., 2002; Morf & Rhodewalt, 2001; Tracy & Robins, 2003). Moreover, when narcissism is partialled out of self-esteem, the regression coefficient for self-esteem more closely captures the conceptualization of global self-esteem, thereby providing clear support for the low-self-esteem hypothesis.

Cross-Cultural Comparisons

It was hypothesized that levels of reactive aggression would be higher for the individualistic culture, but levels of proactive aggression would be similar across both cultures. However, the findings revealed that there was no difference in the levels of reactive aggression between the two countries. Instead, there was an increase in the levels of proactive aggression reported by the collectivistic culture. This may suggest that Malaysians are more capable than Britons in terms of using aggression for instrumental ends. Nevertheless, interpretation of this finding may not be so straightforward. Whilst these results could reflect a genuine difference in the levels of proactive aggression between the UK and Malaysian sample, such a result would conflict with the theory. No other studies have compared levels of aggression for these countries for further comparison. Another possibility is that the variation is due to local sampling differences. Whilst we attempted to sample from two similar populations (university students), there are likely to be differences due to differing admissions policies between participating institutions, even when these were of the same country.

Participation from both countries relied on people's willingness to volunteer, and it may be possible that the types of people volunteering may be dissimilar across such samples, or at least driven by different motivations. Lastly, as the measure of aggression that we employed was based solely on self-report, there are many possible reasons to believe that self-reporting in these two cultures could be distinct. For instance, those in Malaysia may have been more honest about their aggressive behaviour. It is plausible that there is some stigma associated with aggressive acts that may have led some people to conceal, and hence not give an honest report of this behaviour. It is worth noting that students in most Malaysian universities are subjected to the disciplinary laws and regulations (e.g., Universities and University Colleges Act – Act 30; Malaysian Goverment, 1971), which could, to some extent, control certain negative behaviours among them. Moreover, it may be possible that aggressive acts that are contrary to the norms of the culture are likely to attract more attention or get reported more often, which discourages the behaviour from occurring. For these reasons, robust conclusions cannot be drawn from the data as they relate to absolute levels of aggression. And ultimately, the chief aim of the present work is related to the associations between aspects of self-esteem and aggression.

It has been hypothesized that various aspects of self-esteem could possibly differ in terms of their relationship with aggression. However, no specific prediction has been made as to how, if at all, culture might alter these relationships. Despite the good power to detect differences between these countries, no differences were found. The similar pattern of processes between these two cultures supported the view that the reported links may be universal.

Gender and Aggression

One of the secondary hypotheses of the current thesis is that males would show greater levels of proactive aggression, but there would be no gender differences in reactive aggression. The data supported this notion, with no gender differences for reactive aggression, but a small difference for proactive aggression, such that males were more proactively aggressive than females. These findings of gender differences are compatible with the results reported by both Raine et al. (2006) using a Western sample, and Fung et al. (2009) using an Asian sample. The present findings also showed similar levels of reactive aggression for both countries, but proactive aggression levels were higher for the Malaysians than the UK sample. The results add to an emerging picture in which it is no longer accepted that males are always more aggressive than females, but one where the function and form of aggression differs across the genders and therefore can dictate the prevalence in each gender (Archer, 2000; Bettencourt & Miller, 1996; Björkqvist, 1994). To our knowledge, this is the first study to report on levels of reactive and proactive aggression in adults, and therefore shows that levels of reactive aggression are similar across genders, whilst levels of proactive aggression are approximately 66% greater for males. However, some caution should be exercised in accepting this result is a true reflection of actual aggression, as it is possible that males were more willing to admit (or even fabricate) acts of aggression.

Despite these gender differences in levels of aggression, the evidence for gender moderating the relationship between aspects of self-esteem and aggression was not found. Again, this suggests that models of aggression may be similar for both sexes, and data from one gender can be generalised to the other.

3.9.1 Limitations

A few limitations of the current investigation warrant comment. Firstly, the present investigation is correlational in nature, therefore, no causal relationships between variables can be established. Secondly, the results from this study rely solely on the use of self-report questionnaires to assess the differential characteristics of reactive and proactive aggression. Without verification from other informants (such as parent, teacher, or peer reports), this study relied on the same reporters to evaluate not only the reactive–proactive aggression subtypes but also the constructs of narcissism. Thirdly, individualistic and collectivistic values of the participants were not measured directly, which might contribute to inaccuracy of the way it has been evaluated. The theoretical interest was at the societal level of individualistic and collectivistic. Although individual differences in these values may well be important, they were not the variable of interest in the present study. There is ample empirical evidence suggesting that Malaysia upholds stronger collectivistic values than individualistic values. Hence, it was unnecessary to undertake direct measurement of individualistic and collectivistic attributes at societal level (Forbes et al., 2009). A fourth limitation pertains to the use of university students as a sample, as this is clearly not representative of the whole culture. However, it should be noted that the attempt to comply with ethnicity compositions of the country during the recruitment of participants was done in the best way possible.

In spite of these limitations, this investigation extends previous research and may contribute to the existing literature on the relationships between aggression, narcissism, and self-esteem. Moreover, the differential types of aggression and both explicit and implicit measures were taken into account. There is a dearth of published

research studies on this topic area using Asian samples. Findings from the current investigation provide a richer understanding of the associated characteristics of reactive and proactive aggression, especially among Asian populations.

3.10 Conclusions

The pattern of relationships between self-esteem, narcissism and reactive and proactive aggression for the Malaysian sample (representative of the collectivistic culture) was identical to those of the UK sample (representative of the individualistic culture). In particular, low self-esteem is related to aggression, and specifically to reactive aggression. Narcissism is also related to aggression, but to proactive aggression in particular. Despite the consistencies across the two cultures, there was also consistency across both genders. Knowledge of these relationships might help inform the development of risk assessments of future violence along with programmes designed to reduce aggressive acts (Thomaes, Bushman, de Castro, Cohen, & Denissen, 2009).

CHAPTER 4

SELF-ESTEEM AND AGGRESSION IN A HIGH RISK POPULATION SAMPLE

4.1 Introduction

Self-esteem is a useful construct that is known for its diverse array of conceptualizations, as well as the possibility of its many distinct dimensions (Campbell et al., 2002; Kirkpatrick et al., 2002; Trzesniewski et al., 2006). The Double Perspective Model (DPM; Wojciszke, Baryla, Parzuchowski, Szymkow, & Abele, 2011) proposes that social cognitions such as self-esteem involve two basic dimensions of content, which exist at both individual and social group level. These dimensions constantly appear in the form of different names such as masculine-feminine, agency-communion, and individualistic-collectivistic, and have slightly different meanings (Abele & Wojciszke, 2007; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). However, they share common cores such that all former terms denote motivational competence and focus on the efficiency of goal-attainment, while the latter terms denote the prosocial or antisocial content of the goals and focus on social relations. These dimensions may also be inter-correlated, although they may have different functions and may be activated in different contexts. Consequently, the utility of global measures of self-esteem is overestimated, as it does not capture these dimensions when predicting aggression. It is notable that most research has not examined which aspects of self-esteem might be linked to aggression. Hence, in the present chapter, the interpersonal content of the agency-communion dimension is taken into account in investigating the relationships between self-esteem and

aggression on a sample that have been characterised as high-risk based on the problematic issues that they are encountering. Given the importance of understanding the aetiology and maintenance of violent behaviour, and its subsequent prevention in individuals with a history of aggression, such an understanding would help in the risk assessment of individuals and may contribute to the development of treatment plans for those thought to be at high risk.

4.2 Limitations of Global Self-Esteem Measures: The Need to Include Interpersonal Content of Self-Esteem

A key issue challenging research on aggression is that some contexts require the researchers to accurately and efficiently assess individual differences in terms of personality, emotion, and cognition (Webster et al., 2014). In relation to self-esteem, the need for efficient measures have led to the validation of brief measures such as the widely used Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965). Despite being a relatively short, simple, and obvious measure of self-esteem, the utility of the RSES is believed to be the most suitable in capturing global self-esteem, particularly when participants need to be assessed frequently and quickly, or are susceptible to fatigue (Webster et al., 2014). However, Bushman and Baumeister (1998) claim that the RSES is insensitive to relevant differences in measuring self-esteem. Based on the RSES, global self-esteem is the participant's belief that in general he or she is as good as most other people. However, it does not measure to what extent the person believes that they are better or worse than other individuals on specific dimensions. Apparently, people who feels that they are as good as others are different to people who feels that their selves are better than most o4thers (Brown & Zeigler-Hill, 2004). Similarly, the use of global self-esteem measures may not be wholly compatible with how the degree

of social dominance and narcissism are being captured in other instances (Bushman & Baumeister, 1998[7]; Twenge & Campbell, 2003). It is important to note that the pertinent research is not exclusively on self-esteem measured as a unitary, global construct.

A classic study by Buhrmester, Furman, Wittenberg, and Reis (1988) examined the link between self-esteem and a variety of interpersonal behaviours. Instead of using the RSES, they used the Texas Social Behaviour Inventory (Helmreich, Stapp, & Ervin, 1974) as a measure of self-esteem. This was originally developed as a measure of social competence, and contains a strong social dominance component (Brown & Zeigler-Hill, 2004). It was found that self-esteem and a range of self-reported interpersonal skills, such as the provision of emotional support, were strongly correlated. Interestingly, the ratings of the participants provided by their roommates revealed a very different picture because the self-esteem level of the participants was, at best, weakly associated with the roommates' impressions of their interpersonal skills. It is possible that the outcome might have been different if these researchers had used a global measure such as the RSES, that was not created specifically to measure social competence.

Using various measures of self-esteem would make it somewhat difficult to capture different underlying constructs, or even different facets of the construct (Zeigler-Hill, 2010). If the various instruments that are used to measure self-esteem differ in terms of their interpersonal content, then the choice of which instruments researchers use

[7] They tested the 'threatened egotism model' in two experiments that looked at different predictions of global self-esteem and narcissism on aggression (which was measured using loud noise blasts in a laboratory).

may have an important influence on how self-esteem is conceptualized. Hence, it is crucial to clarify what is underpinning the term self-esteem and to include the interpersonal content of the self-esteem construct (Brown & Zeigler-Hill, 2004). Thus, comparing the interpersonal content of self-esteem to the construct itself is important because the use of different self-esteem instruments may lead to slightly different conclusions concerning any relationship with the construct of self-esteem. Similarly, when examining the relationship with aggression, the domain-specific theory of self-esteem supports the notion that functionally distinct domains of self-esteem would differentially predict aggression (Webster & Kirkpatrick, 2006).

Understanding the interpersonal content of self-esteem is crucial, given that interpersonal behaviour and self-esteem have been inextricably linked since the onset of the thoughts on nature of the self (e.g., Cooley, 1992; James, 1890). From an evolutionary perspective, it is possible that self-evaluation involves numerous functionally distinct processes related to various adaptive problems (Kirkpatrick & Ellis, 2001). As there are both cognitive and affective elements to self-esteem that affect human behaviours (e.g., Walker & Bright, 2009), an individual behaviour and its consequences may hence affect a person's self-esteem (James, 1890). One of the primary motives governing interpersonal behaviour was the maximization of self-esteem (Leary, 1957). It is believed that the majority of interpersonal human behaviour is based on the objective of maintaining and enhancing one's feelings of self-worth. Interpersonal experiences are still considered to have a profound impact on self-esteem such that individuals who feel valued and accepted by others generally experience higher levels of self-esteem than those who do not (Leary, Tambor, Terdal, & Downs, 1995). The experience of low or high self-esteem marks the extent to which one can

succeed in establishing social connections with others or can be at risk of social devaluation and rejection (Leary et al., 1995; Leary, Twenge, & Quinlivan, 2006). Self-esteem serves as a sociometer (Leary & Baumeister, 2000) that drives people towards actions that reduce the possibility of being excluded and rejected. Even though it is of great importance that individuals make connections with others and are accepted by the group from this perspective, Kirkpatrick and Ellis (2001) argue that self-esteem reflects the activity of multiple, domain-specific sociometers, each designed to monitor functionally distinct adaptive domains. For example, in addition to social inclusion within friendships and coalitions, other sociometers should be designed to monitor one's relative standing in local competition for status and mates, as well as the relative standing of one's social groups relative to other competing groups. Consequently, group living requires humans to compete for a position in the social hierarchy and yet to also cooperate in the preservation of reciprocal alliances. It appears that there are interpersonal domains of self-esteem known as *agency* and *communion* that are frequently used to characterise two fundamental styles of how individuals relate to their social world (Bakan, 1966).

4.3 Agency and Communion as Dimensions of Self-Esteem

A substantial amount of research on explicit self-esteem has demonstrated that self-attitudes are composed of at least two dimensions, often centered on issues broadly defined as agency versus communion, which predict different thoughts, feelings, and behaviours (e.g., Kirkpatrick et al., 2002; Tafarodi & Swann, 1995). Agency and communion are personality traits that are posited to be essential elements of positive social functioning, health, and psychological well-being (Bakan, 1966; Helgeson & Fritz, 1999; Helgeson, 1994; Saragovi, Koestner, Dio, & Aube, 1997). Agency refers

to personality characteristics that are related to an individual focusing on the self, manifested through self-confidence, self-assertiveness, and self-direction. It is associated with individualistic thinking and is concerned with how an individual strives to master their environment. Hence, individuals oriented toward agency experience life fulfillment through individual accomplishments and a sense of independence. In contrast, communion refers to personality characteristics that are related to an individual connecting with others through emotions, nurturance, empathy, and cooperation. It is associated with collectivistic thinking and concerns the individual desire to closely relate to and cooperate and merge with others. Therefore, individuals oriented toward communion experience life fulfillment through relationships with others (such as kindness and morality) and a sense of belonging. Generally, agency shows a moderate relationship with emotional adjustment and self-esteem, whereas communion shows a small to moderate association with positive social outcomes (Helgeson & Fritz, 1999; Helgeson, 1994). Hogan (1982) framed his socioanalytic theory around agency and communion and captured the distinction felicitously in his labelling of the two primary human motives as "*getting along*" and "*getting ahead*".

The Dual Perspective Model (DPM; Abele & Wojciszke, 2007, 2014; Wojciszke et al., 2011; Wojciszke & Sobiczewska, 2013) was developed to show that the two content dimensions of agency and communion are differentially linked to the basic perspectives of social interaction. In particular, every social action involves two perspectives, one of which is the agent (a person who performs an action) and the other the recipient (a person at whom the action is directed). The immediate cognitive goals of the agent and recipient differ, which results in heightened accessibility and weight

of content referring either to agency (from the agent's perspective) or to communion (from the recipient's perspective). DPM explains why evaluations of other people are dominated by communal over agentic considerations and allows the novel hypothesis that self-esteem is dominated by agentic rather than communal information.

In recent years, the application of agency and communion as a conceptual framework has evolved successfully. Agency and communion have been strongly associated with sex-role socialisation (Bakan, 1966; Helgeson, 1994) and with self-concept formation (Markus & Kitayama, 1991). People vary in the degree to which they cherish collectivistic versus individualistic values, as well as in the degree to which they define themselves in an interdependent versus dependent way (Oyserman et al., 2002). Those with an independent self-construal define themselves in terms of internal and private attributes, abilities, and preferences, whereas those with an interdependent self-construal define themselves in terms of their relationships with others (Markus & Kitayama, 1991). In effect, even within an individualistic (or collectivistic) society people may vary in the degree to which their self-esteem depends on agentic versus communal considerations. A similar role may be predicted for gender. These constructs are considered to reflect stereotypical, socially desirable male and female sex-role characteristics (i.e., "*masculinity*" and "*femininity*" ; Abele, 2003). Helgeson (1994) reviewed the literature on sex-role socialisation and found consistent evidence that men are primarily socialised to be independent, self-sufficient, achievement oriented, adventurous, and risk taking, whereas women are primarily socialised to be nurturing, sensitive, relationship oriented, and help-seeking. However, Wojciszke et al. (2011) did not find any gender differences in the agency-over-communion effect on self-esteem, as all their participants came from an individualistic culture. Things

may be different for women originating from collectivistic cultures, where pressures on communion stemming from the traditional gender stereotype may be bolstered by pressures stemming from cultural norms.

According to Sakellaropoulo and Baldwin (2007), the distinction between the agentic and communal dimensions of self-regard is accentuated by narcissism. For example, chronically narcissistic individuals tend to perceive themselves better than average on agentic traits (e.g., intellectual skills, extraversion) but below average on communal traits (e.g., agreeableness, morality). In contrast, high-self-esteem individuals perceive themselves as better than average on both agentic and communal traits (Campbell et al., 2002).

More recently, researchers have begun to examine the deleterious implications of the "unmitigated" variants of these constructs. The two related constructs, namely "unmitigated agency" and "unmitigated communion" have not received nearly as much attention. However, Bakan (1966) argued that it was important for agency to be mitigated by communion as that ''unmitigated agency'' would lead to a wide range of health hazards, such as infanticide and suicide. Unmitigated agency (i.e., agency that is not mitigated by communion) and unmitigated communion (i.e., communion that is not mitigated by agency) capture the maladaptive or socially undesirable features of gender-stereotyped traits (Helgeson & Fritz, 1999). In general, unmitigated agency predicts a confrontational interactional style and excessive interpersonal control, whereas unmitigated communion predicts imbalanced relationships and interpersonal problems of submission and overinvolvement (Helgeson & Fritz, 1999, 2000).

However, the main focus of the current investigation is on the agency and communion constructs.

4.4 Measurements of Agency and Communion

4.4.1 Explicit Measure: The Use of Personal Attributes Questionnaire (PAQ)

Despite the wealth of data documenting the conceptual utility of agency and communion as superordinate metaconcepts, there are no direct measures of global agency and communion value dimensions that are currently available (Trapnell & Paulhus, 2012). Agency and communion were found to represent desirable stereotypical characteristics of men and women, respectively. Therefore, it seems sensible to adopt the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Stapp, 1974) in this current investigation, given that the characteristics of agency and communion are strongly related to the masculine and feminine sex-role in many cultures (Helgeson, 1994), and the validity of this measure has already been established. In fact, contemporary research has continued to use the two scales in a variety of contexts including the measurement of agency and communion (Abele, 2003; Helgeson, 1994; Saragovi et al., 1997). The PAQ items were chosen to describe "characteristics that are not only commonly believed to differentiate the sexes, but on which men and women tend to report themselves as differing" (Spence & Helmreich, 1978, p. 32). Spence and Helmreich (1978) described items from the Masculinity (M) scale as traits related to self-confidence and competitiveness, which are thus thought to be "instrumental" or "agentic" in content. The Femininity (F) scale items pertain to kindness and interpersonal warmth and have been characterized by Spence and Helmreich (1978) as "expressive" or "communal". However, both unmitigated agency (e.g., being arrogant) and unmitigated communion (e.g., being overly involved with

others) are considered to be undesirable gender traits (Diehl, Owen, & Youngblade, 2004; Helgeson, 1994).

Ward, Thorn, Clements, Dixon, and Sanford (2006) contend that factor analytic studies of the 24-item PAQ (Spence & Helmreich, 1978) have reported inconsistent results, indicating inadequate fit for factors corresponding to Masculinity, Femininity, and Masculinity–Femininity scales. They used confirmatory factor analysis (CFA) in a college sample (N = 382) to evaluate the 3-factor model, and revised the scales by eliminating 6 misspecified items. Based on psychometric results, they conclude that Agency (Masculinity) may not be a fully adequate measure of the agency construct. Communion correlated well with Agreeableness, while Agency had moderate correlations with Neuroticism, Extraversion, and Conscientiousness.

4.4.2 Implicit Measures of Agency and Communion

It is evident that many aspects of cognition may not be available for introspection and take place at an implicit level (Epstein, 1980; Farnham et al., 1999; Greenwald & Banaji, 1995; Hetts et al., 1999). In order to measure these implicit cognitions psychologists have developed a suite of indirect methods. Prominent among these is the use of the Implicit Association Test (IAT; Greenwald et al., 1998) that has been used to measure the concept of self-esteem on many occasions (e.g., Pinter & Greenwald, 2005; Yamaguchi et al., 2007). It is thought that these implicit self-cognitions may guide behaviour under certain conditions, such as when there is little chance to consider ones actions (i.e., under time pressure) and hence, these implicit cognitions predict spontaneous behaviours (such as non-verbal behaviours) rather than deliberate behaviours.

Until now, there have been limited studies that have attempted to examine the relationship between implicit self-esteem and aggression. Sandstrom and Jordan (2008) measured explicit and implicit self-esteem (via an IAT) in school children. The implicit measure was not, by itself, associated with aggression, but instead, a combination of low implicit self-esteem coupled with high explicit self-esteem was associated with aggression. Such findings seem to fit with the notion of narcissism (Zeigler-Hill, 2006), and "fragile narcissism" in particular (Kernis, 2003) where defensive and aggressive behaviours may be used to bolster their fragile self-perception. Schröder-Abé, Rudolph, and Schütz (2007) used a measure of the outward manifestations of anger in a young adult population and also used the IAT to measure implicit self-esteem, and found no relationship between them. Amad, Pepper, Gray, and Snowden (*in submission*) examined explicit and implicit self-esteem in an undergraduate sample. They too found little evidence of a direct relationship between the implicit measure and aggression but instead found that a combination of high implicit and low implicit self-esteem was associated with hostility and indirect aggression. This pattern of high implicit and low explicit self-esteem has been labelled as "damaged" self-esteem by others (Schröder-Abé, Rudolph, & Schütz, 2007) and has also been shown to be related to aggression to the self (Vater et al., 2010).

Procedures that amplify implicit self-esteem tend to curb defensive reactions. For example, in a study conducted by Baccus, Baldwin, and Packer (2004), some of the participants were exposed to their personal details, such as their name, alongside positive pictures. This protocol instils positive associations with the self, which increases implicit self-esteem (for a similar procedure, see Dijksterhuis, 2004). They

discovered that, after implicit self-esteem escalated, individuals subsequently became less aggressive and defensive.

Nevertheless, the aforementioned indirect measures of self-esteem used in these studies did not consider the distinction between the concepts of agency versus communion evaluations of self. Campbell, Bosson, Goheen, Lakey, and Kernis (2007) developed two novel versions of the self-esteem IAT in order to examine their relationship with narcissism. In their agency IAT, words related to high versus low agency traits were used (such as "dominant" versus "submissive"), whereas in their communion IAT, words related to high versus low communion traits were used (such as "kind" versus "stingy"). They found that the agency IAT correlated with an explicit measure of narcissism, whereas the communion IAT did not (with the more traditional self-esteem IAT correlating with narcissism at a level between these two results, presumably as it contained descriptors of both agency and communion).

There is relatively little research on the processing of communal vs. agentic information at other stages of person perception. However, Ybarra, Chan, and Park (2001) found that people respond faster to communion dimension stimuli than to agency dimension stimuli in a lexical decision task. This provides evidence that communal information is processed preferentially at the early stages of information processing of recognition. The task required participants to deal with word recognition, in which they had to recognize as quickly as possible whether letter strings presented to them on the computer monitor were words or non-words. Participants' responses to person cues were a function of whether they described morality or competence-related

aspects of people, and whether the person cues referred to the positive or negative aspects of personality.

4.5 Agency and Communion and Relationships with Aggression

To date, there is little empirical evidence that demonstrates the direct relationship between the agency-communion self-concept and aggression. For instance, it was found that possession of agentic (stereotypically masculine-associated) traits was associated with decreased symptoms of depression, anxiety, and hostility in males and females (Markstrom-Adams, 1989). On the other hand, the related traits- unmitigated agency and unmitigated communion appear to display small to moderate relationships with hostility and anger (Helgeson & Fritz, 1999, 2000). Bakan (1966) outlined that unmitigated agency is a focus on the self to the exclusion of others, which includes being hostile, cynical, greedy, and arrogant. Hence, this kind of person has a negative view of the world and of other people. Hostility is one component of unmitigated agency and a vast literature exists demonstrating the health hazards of hostility. Furthermore, unmitigated agency perceives "aggressiveness" as an extreme form of "dominance", whereas unmitigated communion perceives "dependency" as an extreme form of "kindness" – both of which are harmful for the self and for interacting with others (Frimer, Walker, Dunlop, Lee, & Riches, 2011; Helgeson & Fritz, 1999).

There may be two possible ways to connect the agency and communion concepts to aggression, based on the low self-esteem hypothesis and the threatened egotism model. People who establish a weaker attachment towards society (i.e., those with low self-esteem; Rosenberg, 1965) are prone to have high levels of delinquency and aggression. People may also be aggressive due to feelings of being rejected that may intrinsically

motivate the person to behave aggressively (Ostrowsky, 2010). It has also been suggested that hostility and anger towards others stem from displaced feelings of inferiority (Donnellan et al., 2005). It is possible that being aggressive can increase a person's sense of power and independence (Ostrowsky, 2010). All the characteristics that resemble communion traits lead to the belief that individuals with low communion traits are aggressive, and are prone to displays of reactive aggression in particular. Furthermore, the observation of aggressive acts that are often high-risk in nature make it plausible to believe that an individual must possess a certain degree of courage and are confident that they will be successful in encountering aggression (Barry, Grafeman, Adler, & Pickard, 2007; Baumeister et al., 1996). This points to the characteristics displayed by people with high agency traits. Further, people may also become angry and aggressive towards those who threaten their ego and feelings of dominance (Baumeister et al., 1996; Twenge & Campbell, 2003). As this points to people with high inflated self-views, thus the relationship between narcissism and agency traits (Campbell et al., 2002) make it more compelling to believe that people with high agency traits are more predisposed to aggression, and to proactive aggression in particular.

4.6 Aims of the Chapter

Many studies that investigate reactive and proactive aggression were conducted on the normal population (e.g., Fossati et al., 2009; Raine et al., 2006), including those described in the previous chapter of this thesis (Chapters 2 and 3). The aim of this chapter was to explore the role of self-esteem in aggression using a high-risk population known to have high levels of social problems and that exhibit high levels of problem behaviours. Previous studies in this line of research (Bushman & Baumeister, 1998; Kirkpatrick et al., 2002) have used only trait measures of self-esteem and behavioural measures of aggression. However, it is also crucial to understand the sources of self-esteem. Agency-communion itself is promising source, as agency communion is a more basic concept in comparison with self-esteem (Abele & Bruckmüller, 2011). Hence, the current investigation attempted to measure the influence of self-esteem particularly related to agency and those related to communion. Given that there is yet no empirical work that has looked at these dimensions using implicit measures, the current investigation sought to examine the self-esteem and aggression relationships using both explicit self-report and by indirect techniques that aim to measure implicit cognitions. An examination of these relationships began with looking at how measures of explicit (global) and implicit self-esteem, along with narcissism, aid the prediction of reactive and proactive aggression.

It has been reasoned that those high in agency would be aggressive due to their need to show dominance and power, especially under situations where these qualities might be questioned. On the other hand, those low on communal self-concepts (those that feel unaccepted by others) are also likely to behave in an aggressive manner as they may feel rejected and ashamed of their behaviours, leading to feelings of anger and

hostility. Therefore, in this current investigation it is hypothesized that both high levels of agency traits and low-levels of communal traits will be predictive of aggressive behaviours. Note that this prediction is different to the results of others, where both low and high self-esteem *per se* was predicted to be related to aggression (Webster, 2007).

4.7 Methods

4.7.1 Sample

Participants were 101 people (65 males; 36 females) who had sought help and support from SOLAS (an organisation that provides a broad range of services for people who are vulnerable, homeless, or at risk of homelessness). These are people that may have issues such as mental health problems and psychological problems (e.g., anxiety, depression, and personality disorders), alcoholism, drug addiction, sex abuse, and other vulnerable issues. The vulnerability of SOLAS residents are not limited to the aforementioned criteria, some people may possess low self-esteem, some are considered as high-risk as they may have involved in challenging behaviours and matters such as self-harming, parasuicide, sexualised taking behaviour, offending behaviour and those at risk of offending, criminal behaviour, as well as domestic abuse. They are referred to SOLAS by the local authorities, young offending, and other statutory agencies, among others by the Cardiff Mental Health Team (CMHT) in the Vale of Glamorgan. Each individual has complex needs and SOLAS help them by encouraging these people to develop confidence, positive coping strategies, education, and skills to enable them to make the transition to a positive future and independence.

Participants' age ranged between 18 to 35 years (M = 22.61, SD = 4.72). Almost all participants described their ethnicity as British (98%), mixed (1%), or "other" (1%). Among these, 67.3% claimed not to hold any religious belief, while others were Christian, Catholic, Muslim and Agnostic. Ninety-two people (91.1 %) were unemployed, 3% were employed full-time and 5.9% were part-time workers. In terms of relationship status, 57.4% of participants described themselves as being "single", while the other 42.6% were dating or engaged.

The sample was recruited via an advertisement that invited participants to take part in an experiment that was looking at various aspects of personality and its relation to problematic behaviours. Participants were identified through their appointments and visit to the SOLAS centres[8] and were recruited via the direct access hostel and the dual-diagnosis hostel in Newport. Initial discussion with the manager of each scheme identified suitable participants by considering the risk assessment and lone working policy for each individual. An assigned key worker who was meeting them on a daily basis mediated communications between the researcher and the residents throughout the whole process. Apart from the advertisement, residents were approached by their keyworker in the first instance and offered the opportunity to participate in the research. Those who were interested in participating registered a slot for a suitable time. It was acknowledged that this strategy may have introduced some form of sampling bias into the recruitment process, as only residents in contact with the psychological services were the most likely to participate in the study. However, such a strategy is a necessary compromise to achieve our minimum target number of participants in such a population. Participants were initially tested with the Schonell

[8] SOLAS services are available in South Wales. Participants were those in Blaneau Gwent, Caerphilly, Torfaen and Monmouthshire schemes.

Reading Test (Schonell, 1971) to look at their reading ability. Individuals who had a reading ability of below five years old were still allowed to participate but with assistance and were excluded from completing certain implicit measures. Participants received a gift card for a local supermarket for their participation.

4.7.2 Measures

4.7.2.1 Demographic Measures

Demographic forms were similar to those used in Chapters 2 and 3. However, participants were asked about their current job status, instead of their educational attainment – whether they have a job or not (full-time/ part-time/not working).

4.7.2.2 Self-report Measures

Schonell Reading Test

The Schonell Reading Test (Schonell, 1971) was used as a pre-test to screen the reading ability of the participants, without testing their reading comprehension. The researcher conducted this test without having previously scored the participants. A person was required to achieve the approximate reading age of a five-year old in order to enable them to complete the implicit measures for agency and communion. Participants were instructed as to which words they should be reading. The words increased in difficulty as the person proceeded. Where the person was unable to say the word, they were directed to the next one. Overall, assessment of the ability to read relied on the judgement of the researcher. This test was conducted in addition to the experimental procedure, since some of the participants had been identified as having learning difficulties.

Rosenberg Self-Esteem Scale (RSES)

The RSES (Rosenberg, 1965) is a well-used and validated questionnaire that produces a measure of global self-esteem. It is a 10-item scale that produces a score from 0 to 30. The RSES was deemed to be more practical, less time consuming, and was thought as more appropriate on the high-risk sample, relative to the MSEI. High scores indicate higher levels of global self-esteem. In the present sample, the alpha reliability was good ($\alpha = .83$), although slightly lower than reported by Schmitt and Allik, (2005) in their UK sample.

Narcissistic Personality Inventory (NPI)

The description of the NPI (Raskin & Terry, 1988) has been mentioned in Chapter 2. The current sample showed a strong internal consistency coefficient for this measure ($\alpha = .83$).

Personal Attributes Questionnaire (PAQ)

The PAQ (Spence et al., 1974) is the most commonly used proxy measure of agency and communion self-esteem. The PAQ has 24 bipolar items in which participants were asked to indicate the extent to which they can be characterised in terms of various adjective traits. Participants responded to the questionnaire using a 5-point scale from 0 (e.g., "Very rough") to 4 (e. g., "Very gentle"). The items were scored together to yield scales of Masculinity (8 items, score range from 0 to 32) that represents agency and Femininity (8 items, score range from 0 to 32) that represents communion. A third scale (Androgyny (masculinity-femininity)) is not of interest to the present study and

is not presented here. In the present sample, the reliability coefficients for Masculinity and Femininity were good (α = .70 and α = .79, respectively).

Reactive and Proactive Questionnaire (RPQ)

The RPQ (Raine et al., 2006) has been described in Chapter 2. The reliability coefficients for the current sample were high for both Reactive Aggression (α = .85) and Proactive Aggression (α = .82).

4.7.2.3 Implicit Measures

Self-esteem IAT

The Self-esteem IAT has been described in Chapters 2 and 3. The present sample demonstrated an excellent reliability coefficient of this measure with α = .86.

Agency and Communion IATs

The agency and communion IATs were produced by our team using the descriptors of agency and communion developed by Campbell et al. (2007). Only those who achieved the required reading age in the pre-test completed these IATs. Similar to the self-esteem IAT, self-referential '*me*' terms were generated within the demographic questionnaire that were then entered as stimuli. The agency IAT words that were used reflected high versus low agency (*assertive, active, energetic, outspoken, dominant, enthusiastic, quiet, reserved, silent, withdrawn, submissive, and inhibited*). The communion IAT words that were used reflected high versus low communion (*kind,*

friendly, generous, cooperative, pleasant, affectionate, mean, rude, stingy, quarrelsome, grouchy, and cruel).

Each target stimulus appeared in the centre of the screen while category labels were displayed throughout the task at the top of the computer screen. The descriptor words (e.g., "high versus low agency") were presented in lowercase letters, whereas the concept words ("me versus not-me") were presented in uppercase letters. Participants were given instructions prior to commencing each IAT stage. Each IAT consisted of four stages that all participants completed in the same order. The scoring algorithms (i.e., IAT effect) were calculated in the same way as previously described for the self-esteem IAT. Hence, the more positive scores are interpretable as greater levels of implicit agentic and communal. Using the Spearman-Brown correction for reliability estimates, these IATs demonstrated a split-half adjusted *r*-value of .85 for agency IAT and .84 for communion IAT, indicating good internal reliability.

4.7.3 Procedure

Participants were tested in a quiet, secure room within the schemes (i.e., hostel) where they live. All hostels have a room used by professionals for key working and individual therapy that are all similar in design, with minimal furniture and plain decor. Each room has an internal camera for staff safety. For participants with learning difficulties, the procedures were also explained verbally to ensure that they understood the whole experimental process. The participant was given the Information Sheet that included the right to withdraw at any time during the study, and signed the written consent form as described in the previous studies. Prior to initiating the experiment, the keyworker ran the Schonell Reading Test to determine the reading ability of the participants.

Those participants identified as having reading ability below the required level (i.e., approximate reading age of a 5 year old) were not tested on the Agency and Communion IATs as these tests require the participants to respond to word stimuli. Self-report measures were read aloud to the participant, if necessary, in order to address any issues with literacy. They were then guided towards completion of the whole experiment, in a similar way to that described for the UK and Malaysia study. The member of SOLAS also remained available throughout the procedure.

SOLAS policy and procedure for dealing with disclosure and confidentiality were followed during this recruitment. All disclosures that are deemed to be of significant harm to themselves or others would be immediately passed on to their individual keyworker who has a vast and in-depth knowledge of the participant's history. The keyworker, in conjunction with the Clinical Psychologist, would decide on the course of action, which could include further support for the keyworker to work more effectively with that client, the offer of individual therapy through the Psychology Service, or in extreme cases referral to the necessary authorities.

Given the sensitivity of the research topics, following completion of all self-report and IAT measures, all participants in the current investigation were offered the opportunity to watch a short comedy video to restore their mood. Participants were provided with a full verbal and written debrief, thanked, and then each of them given compensation (i.e., a gift card) for their time.

4.7.4 Analyses

Each of the variables was inspected for outliers (> 3 *SD* from mean) and such outliers were capped at this value. The data were then inspected to see if they met the assumptions of a normal distribution. In line with the recommendations of Tabachnick & Fidell (2007, p. 80) for large datasets, visual inspection was used rather than formal statistical tests. All measurements appeared to be normally distributed, hence data were analysed using parametric analyses. Preliminary analyses were conducted to ensure that other assumptions such as multicollinearity, outliers, linearity, and homoscedasticity had not been violated for the regression analyses.

Descriptive statistics were calculated according to gender groups for all self-esteem and aggression variables. Differences between these groups were assessed using independent t-tests. The degrees of associations between self-esteem and aggression scores were then assessed using zero-order correlations. A series of hierarchical multiple regression analyses were conducted to determine whether the IATs demonstrated incremental validity above that achieved by self-report alone, and whether the interaction between explicit and implicit measures of aspects of self-esteem further aided prediction of both types of aggression.

4.8 Results

4.8.1 Sample Averages and Gender Differences

Table 4.1 shows the descriptive statistics along with the average scores for each variable, both across the sample as a whole and according to gender. In addition, the table displays the results of a series of t-tests used to determine the presence of any significant gender differences. Six participants failed to complete the self-esteem IAT (ST-IAT) appropriately. For agency and communion IATs, sixteen were exempt from completing the tasks due to literacy issues (i.e., filtered through Schonell Reading Test) and another four were extreme cases (i.e., obtained more than 30% errors) and were thus removed from the data. All these cases were deleted from subsequent analyses.

Overall, the mean total scores of the Rosenberg Self-esteem Scale were lower than those reported by Schmitt and Allik (2005) amongst a mixed college student and community sample in the UK. On the explicit measures, the SOLAS sample demonstrated that males have significantly greater scores of global self-esteem (large ES)[9], narcissism (medium ES), and masculinity/ agency (medium ES) than females. No significant difference was found between males and females for the femininity/ communion scale. On the implicit measures, there were no gender differences on any of the scales.

[9] Interpretation of effect sizes (ES) were based on Cohen (1998)

On the measure of aggression, there was no significant difference between males and females in terms of reactive aggression scores. However, males reported significantly more proactive aggressive behaviour (small ES) than females.

Table 4.1. Means, standard deviations, and t-tests comparing scores for all variables between males and females.

Variable			Total sample (N = 101)		Males (N = 65)		Females (N = 36)		Group Comparison	Effect Size
	Min	Max	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Explicit (Global) SE	3	29	17.61	5.46	19.14	4.87	14.86	5.46	t = 4.05***	0.84
Narcissism	1	23	11.17	5.8	12.54	5.32	8.69	5.89	t = 3.35**	0.69
• Adaptive Narcissism	0	12	5.04	2.8	5.63	2.67	3.97	2.73	t = 2.96**	0.62
• Maladaptive Narcissism	0	12	4.46	2.78	5.05	2.64	3.39	2.76	t = 2.98**	0.61
Implicit SE	-0.36	1.67	0.50	0.40	0.46	0.42	0.57	0.35	t = -1.23	-0.28
Masculinity (Explicit Agentic)	4	30	16.76	5.44	18.14	5.58	14.28	4.22	t = 3.62***	0.75
Femininity (Explicit Communal)	1	30	18.61	5.95	17.77	6.23	20.14	5.14	t = -1.94	-0.40
Implicit Agentic	-0.90	1.36	0.21	0.38	0.20	0.36	0.24	0.44	t = -0.41	-0.01
Implicit Communal	-0.53	1.31	0.39	0.37	0.37	0.34	0.42	0.42	t = -0.61	-0.13
RPQ Reactive Aggression	0	22	10.20	4.71	9.97	4.76	10.61	4.66	t = -0.77	-0.13
RPQ Proactive Aggression	0	16	3.5	3.81	4.08	3.99	2.47	3.26	t = 2.06*	0.43

Note: SE = Self-esteem. RPQ = Reactive and Proactive Aggression Questionnaire. *p <.05, **p <.01, ***p <.001. Effect size was calculated using Hedges' g (McGrath & Meyer, 2006).

4.8.2 Relationships between Explicit Self-Esteem and Aggression

Table 4.2 presents the correlations between the explicit measures of self-esteem, narcissism and aggression.

Global self-esteem (GSE) and aggression. As in previous samples, the GSE (as measured by the RSES) was negatively correlated with reactive, but not proactive, aggression of the RPQ. The correlation coefficient between GSE and reactive aggression did not significantly differ between males and females ($z = 0.05$, $p = .96$).

Narcissism and aggression. The pattern of associations for NPI was also similar to the previous samples. Narcissism was positively associated with proactive aggression, but not with reactive aggression. The magnitude of this correlation also did not significantly differ between males and females ($z = -0.63$, $p = .53$).

As expected, there was a small correlation between GSE and narcissism. Finally, there was also a strong correlation between reactive and proactive aggression, which is comparable to the correlations reported by many previous studies (e.g., Raine et al., 2006).

Table 4.2. Zero-order correlations between global self-esteem, narcissism and aggression (*N* = 101).

Variable	(1)	(2)	(3)	(4)
(1) GSE	-	.35***	-.35***	-.07
(2) Narcissism		-	.16	.25**
(3) Reactive Aggression			-	.71***
(4) Proactive Aggression				-

Note: ** $p < .01$. *** $p < .001$. GSE = Global Self-esteem.

In consistent with the previous samples, correlations between adaptive and maladaptive subscales of narcissism with reactive and proactive aggression were examined. Table 4.3 shows that adaptive narcissism was not significantly associated with reactive and proactive aggression. Maladaptive aggression, on the other hand, was positively related with both types of aggression. However, these magnitudes of correlations were not statistically differ for males and females (z = -1.42, p = .16 for reactive aggression; z = -1.11, p = .27 for proactive aggression).

Table 4.3. Zero-order correlations adaptive and maladaptive narcissism and aggression (*N* = 101).

Variable	Reactive Aggression	Proactive Aggression
(1) Adaptive Narcissism	.06	.17
(2) Maladaptive Narcissism	.35***	.44***

Note: ** $p < .01$. *** $p < .001$.

In order to determine the unique predictor of each types of aggression, a series of hierarchical multiple regressions were conducted separately for each type of aggression (as shown in Table 4.4). At Step 1, gender was entered into the model. At

Step 2, GSE and narcissism were entered for the main effects. At Step 3, the GSE x narcissism interaction was entered to explore whether it could further improve the prediction of aggression. The self-esteem variables were converted into z-scores in order to standardize the data.

Reactive aggression: Gender was not significant at Step 1. At Step 2, self-esteem and narcissism explained 21.7% of the total variance and the model was significant F (3, 97) = 8.98, $p < .001$, after controlling for gender. At Step 3, the interaction term did not aid the prediction of reactive aggression. Significant predictors of reactive aggression were self-esteem ($\beta = -.47$, $p < .001$) and narcissism ($\beta = .33$, $p < .01$).

Proactive aggression: At step 1, gender did not reach the required level of statistical significance. After the entry of self-esteem and narcissism at Step 2, the total variance explained by the model as a whole was 12.6%, F (3, 97) = 4.66, $p < .01$, after controlling for gender. In the final model, the interaction term was not statistically significant and only narcissism was significantly predictive of proactive aggression ($\beta = .27$, $p < .01$).

Table 4.4. Hierarchical multiple regression analyses predicting aggression outcomes for gender, explicit self-esteem, narcissism, and explicit self-esteem x narcissism interaction.

Aggression outcome				
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.004		.04	
Gender		.07		-.20
Step 2	.21***		.09**	
Gender		-.01		-.21
Global self-esteem		-.47***		-.25
Narcissism		.33**		.27**
Step 3	.004		.006	
Gender		-.004		-.21
Global self-esteem		-.47***		-.25
Narcissism		.33**		.27**
GSE x Narcissism		-.01		-.08
n	101		101	

Note: ** $p < .01$. *** $p < .001$. GSE = Global self-esteem.

4.8.3 Relationships between Implicit Self-Esteem (and Explicit Self-Esteem) and Aggression

The implicit self-esteem measure did not show any direct relationship with the measures of aggression in both the UK and Malaysian samples. Therefore, due to the nature of the samples (i.e., university students versus high-risk population sample), the similar analyses was undertaken to see whether there was any difference in the relationships between implicit self-esteem and aggression. Table 4.5 displays the correlation results for implicit self-esteem, along with explicit (global) self-esteem.

Explicit self-esteem (ESE). These correlations were a replication of those described for global self-esteem.

Implicit self-esteem (ISE). Again, ISE was not significantly correlated with any aggression outcomes. Interestingly, the ESE that was measured by the RSES did not significantly correlate with the ISE (r = .04, p = .71). This was consistent with the findings reported by Jordan et al. (2003), and replicates the common finding that ESE and ISE are independent.

Table 4.5. Zero-order correlations between the types of self-esteem and aggression (N = 101).

Variable	Reactive Aggression	Proactive Aggression
ESE	-.35***	-.07
ISE	-.17	-.22

Note: *** p < .001. ESE = Explicit Self-esteem. ISE = Implicit Self-esteem.

Previous studies (e.g., Sandstrom & Jordan, 2008) have not found direct effects of implicit self-esteem on aggression, but have found that implicit self-esteem interacts with explicit self-esteem in the prediction of aggression. Therefore, it was of interest to know if the explicit and implicit measures interacted with each other to predict aggression in this sample. Given that the t-test analysis showed gender differences in the scores of proactive aggression, and that there appears to be mediating effects of gender upon the relationship between explicit self-esteem and aggression (von Collani & Werner, 2005; Webster, 2007), gender was controlled in the next analysis. Table 4.6 presents the hierarchical multiple regressions for the above relationships.

Reactive aggression: Gender was not significant at Step 1. At Step 2, explicit self-esteem and implicit self-esteem explained 15% of the total variance, and the model was significant F (3, 91) = 5.3, $p < .01$, after controlling for gender. At Step 3, the interaction term did not aid the prediction of reactive aggression. Only explicit self-esteem was significantly predictive of reactive aggression ($\beta = -.38$, $p < .001$), while implicit self-esteem failed to reach the required level of significance ($\beta = -.13$, *ns*).

Proactive aggression: The hierarchical regression models produced no significant results.

Table 4.6. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit self-esteem, implicit self-esteem, and explicit x implicit self-esteem interaction.

Aggression outcome				
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.004		.04	
Gender		.07		-.20
Step 2	.15***		.06	
Gender		-.05		-.24
Explicit self-esteem		-.37***		-.16
Implicit self-esteem		-.14		-.18
Step 3	.004		.005	
Gender		-.06		-.24
Explicit self-esteem		-.38***		-.17
Implicit self-esteem		-.13		-.16
ESE x ISE		-.06		-.07
n	101		101	

Note: ** $p < .01$. ***$p < .001$. ESE = Explicit Self-esteem. ISE = Implicit Self-esteem.

4.8.4 Relationships between Explicit Measures of Agency and Communion with Aggression

Table 4.7 illustrates the relationships between explicit measures of agency and communion with measures of aggression that were assessed using zero-order correlations. The PAQ Masculinity scale represented explicit agency, whereas PAQ Femininity represented explicit communion. These two scales were weakly correlated ($r = .28$, $p < .01$). This is in contrast with, for example, the findings reported by Abele and Wojciszke (2007; Study 1) that showed a negative relationship between agency and communion.

Explicit agency and aggression: There was no significant correlation between masculinity (explicit agency) with both aggression outcomes.

Explicit communion and aggression: A significant negative relationship emerged between femininity (explicit communion) with proactive but not reactive aggression. However, the correlation coefficient did not differ between males and females ($z = 0.45$, $p = .65$).

Table 4.7. Zero-order correlations between the explicit agency- communion and aggression ($N = 101$).

Variable	Reactive Aggression	Proactive Aggression
PAQ Masculinity	-.03	.07
PAQ Femininity	-.23	-.26**

Note: ** $p < .01$. PAQ = Personal Attributes Questionnaires

4.8.5 Relationships between Implicit Measures of Agency and Communion with Aggression

Another series of correlations were conducted to investigate the associations between implicit measures of agency and communion with aggression outcomes (see Table 4.8). However, both implicit measures failed to show any significant degree of inter-relations with reactive and proactive aggression. In addition, the agency IAT and communion IAT did not correlate with each other (r = .09, p = .45).

Table 4.8. Zero-order correlations between implicit agency- communion and aggression (N = 85).

Variable	Reactive Aggression	Proactive Aggression
IAT Agency	.03 (p = .82)	-.08 (p = .49)
IAT Communion	-.05 (p = .66)	.03 (p = .82)

Note: IAT = Implicit Association Test

4.8.6 Agency Measures Predicting Aggression

Hierarchical multiple regression analyses were used to test whether an interaction between explicit and implicit measures of agency was predictive of aggression outcomes, controlling gender at Step 1. Standardised explicit and implicit measures of agency were entered at Step 2, and their interaction at Step 3. Table 4.9 indicates that all variables in the models were not significantly predictive of reactive and proactive aggression.

Table 4.9. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit and implicit agency, and explicit x implicit agency interaction.

Aggression outcome				
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.004		.04	
Gender		.07		-.20
Step 2	.001		.005	
Gender		.06		-.20
Explicit agency		-.01		.01
Implicit agency		.02		-.07
Step 3	.00		.005	
Gender		.06		-.20
Explicit agency		-.01		.004
Implicit agency		-.02		-.07
Explicit X Implicit		.002		.02
n	101		101	

4.8.7 Communion Measures Predicting Aggression

The above analyses were conducted on the explicit and implicit measures of communion. However, all variables in the models shown in Table 4.10 failed to produce effects that reached the required levels of significance.

Table 4.10. Hierarchical multiple regression analyses predicting aggression outcomes from gender, explicit and implicit agency, and explicit x implicit communion interaction.

Aggression outcome				
	Reactive Aggression		Proactive Aggression	
Predictor	ΔR^2	β	ΔR^2	β
Step 1	.004		.04	
Gender		.07		-.20
Step 2	.06		.06	
Gender		.12		-.16
Explicit communion		-.25		-.24
Implicit communion		-.03		.06
Step 3	.00		.003	
Gender		.11		-.17
Explicit communion		-.25		-.25
Implicit communion		-.04		.04
Explicit X Implicit comm.		-.03		-.06
n	101		101	

4.9 Discussion

The present chapter sought to determine whether measures of explicit and implicit self-esteem were predictive of reactive and proactive aggressive behaviour in a sample that has higher rates of various problematic behaviours. Despite the vulnerability characteristics of the participants (i.e., various psychological issues), the present sample is considered as high-risk due to the higher levels of self-reported aggressive behaviours and lower levels of global self-esteem, in comparison to the previous samples in this investigation (see for example, Fossati et al., 2010; Raine et al., 2006; Seah & Ang, 2008). Other studies that involved high-risk samples include those conducted by Barry, Grafeman, Adler and Pickard (2007), Connor et al. (2004) and Poustka et al. (2010). This chapter has specifically examined whether self-esteem content dimensions of agency were predictive of certain types of aggression, or if self-esteem dimensions of communion were protective against certain types of aggression. It also explored whether an implicit measure of these self-esteem dimensions might improve the prediction over that which has been achieved by explicit measures alone.

Explicit self-esteem was negatively related to reactive aggression, but not to proactive aggression. When isolating self-esteem into agency and communion, it is clear that it is the self-esteem that is due to communion, and not agency, that is responsible for the changes in levels of aggression, specifically proactive aggression. The implicit measures however, did not make any consistent contribution to the prediction of aggression in this sample. Finally, there was no evidence for any gender differences in this pattern of results.

Self-Esteem and Aggression

Consistent with many other studies (Barry, Grafeman, Adler, & Pickard, 2007; Donnellan et al., 2005; Paulhus et al., 2004), measures of global self-esteem were generally predictive of a range of aggressive behaviours such that people with low self-esteem reported greater levels of past aggressive behaviours. The exception in this current investigation is that low global self-esteem does not seem to be predictive of proactive aggression (see also Chapters 2 and 3).

It has been suggested that both agency and communion constitute two basic content dimensions of most global measures of self-esteem, including the RSES (e.g., Campbell et al., 2007; Wojciszke et al., 2011), and that these components may well have very different relationships with measures of aggression. As there have not been a direct measure for agency and communion (Trapnell & Paulhus, 2012) The attempt to isolate these components was done using the PAQ (Spence et al., 1974), which is an index of masculinity and femininity that have been widely used as a proxy measurement for agency and communion (Abele, 2003; Gonzalez, Bockting, Beckman, & Durán, 2012; Saragovi et al., 1997; Ward et al., 2006) based on its contents (Spence & Helmreich, 1978)[10]. The pattern of results for agency (as measured

[10] Otherwise, it may have been better to use our alternative measure of explicit agency and communion using the Inventory of Communion and Agentic Traits (ICAT; Snowden, unpublished). It is a 20-item questionnaire where people rate themselves on a 4-point scale for each of the 20 adjectives. These adjectives are based on those used by Campbell et al. (2007) for their IAT measures and were exactly the adjectives that have been used in our agency and communion IATs. The ICAT has been piloted and showed that it scales correspond closely with a previous commonly used PAQ (Spence, 1978). For instance, the ICAT Agency scale correlated well with the Agency scale of the PAQ (r = .66) but not with the Communion Sale (r = -.10), whilst the ICAT Communion scale correlated the PAQ Communion scale (r = 0.56) but not with the Agency Sale (r = -.02). Reliability coefficients for agency and communion in the present sample were as good as the PAQ (α = .78 and α = .74, respectively). Results based on the correlations between ICAT agency with reactive (r = .13) and proactive aggression (r = .11) appeared not significant, similar to the PAQ. However, the ICAT communion has produced stronger correlates with both reactive (r = -.37, p < .001) and proactive aggression (r = -.39, p < .01), even though 11% of participants did not completed this measure due to their limitations and pre-requisite procedure (see section 4.7.2.3).

by the Masculinity scale) was quite different from the communion (as measured by the Femininity scale). Contrary to what has been hypothesized, agency was not predictive of aggression. On the other hand, communion was negatively correlated with aggression, and with proactive aggression in particular. Hence, these results suggest that not all aspects of global self-esteem are related to aggression. People with high levels of self-esteem relating to communion (those who regard themselves as kind, gentle, and helpful)[11] are less aggressive. Similarly, people who have a deep sense of inferiority (e.g., Donnellan et al., 2005), especially when they do not reciprocate with others (Rosenberg, 1985), may feel devastated, and thus tend to be more aggressive as they feel rejected and worthless (Ostrowsky, 2010). It may also be that the use of aggression is taken as a way to attract attention, simply because they have nothing to lose, and that being aggressive provides them with powerful feelings (Ostrowsky, 2010). However, self-esteem relating to agency (such as whether they see themselves as powerful, strong, or intelligent) is not related to aggression.

The findings that are related to agency and communion appear to emerge from research that has used relatively different measures. As such, the ideas of agency and communion seem to bear great resemblance to the notions of superiority and social inclusion described by Kirkpatrick et al. (2002), respectively. In this study, an individual's self-perceived superiority and their social inclusion was assessed in the experiment where people aggress against a stooge (by administration of a hot sauce) who had given them negative feedback on an earlier task related to essay writing. They found that superiority was positively related to aggression (i.e., administered a greater amount of hot sauce) but that feelings of social inclusion were negatively related to

[11] These are among the femininity adjectives that are characterized as "communal" in content (Spence & Helmreich, 1978).

this aggression (when entered into a regression equation with the other self-esteem variables). On the other hand, when the task was changed so as to imitate a mating competition, neither of these variables was predictive of the aggressive behaviour. Hence, this experiment shows that the relationship between self-esteem and aggression is context specific. However, it also supports the present findings in that strong feelings of social inclusion (or communion in this context) reduce aggression (at least in some settings). However, there was no support for the notion that these feelings of superiority (or agency) are also predictive of aggression.

Narcissism and Aggression

Consistent with the findings of previous studies (Barry et al., 2007; Bushman & Baumeister, 1998; Donnellan et al., 2005; Fossati et al., 2010; Maples et al., 2010; Twenge & Campbell, 2003), narcissism was found to be positively related to aggression, and to proactive aggression in particular. By definition, proactive and reactive aggressions are driven by different motivations. Thus, proactive aggression seeks to gain benefit, whereas reactive aggression involves no goals but instead reflects the need to react to provocation.

In light of the findings, the conceptualisation of narcissism as an extreme form of high self-esteem can be distinguished from mere high self-esteem in two possible ways. The first distinction is based on the suggestion of Baumeister et al. (1996) that at least a ‘‘veneer’’ of high self-esteem (i.e., narcissism) can be linked to aggression. It can be implied that narcissists possess only a veneer of high self-esteem that serves to mask feelings of low self-esteem (see Ostrowsky, 2010 for discussion). The second distinction is based on the notion of “whether narcissism is an exaggerated form of

high self-esteem, a particular facet of self-esteem, a highly contingent and unstable form of self-esteem, a need to feel superior to others, or a defensive shell of inflated self-esteem that compensates for unconscious feelings of inadequacy" (Donnellan et al., 2005, p. 334). It can be implied that narcissists have the desire to be superior to others, but have some doubts about their abilities (Bushman & Baumeister, 1998). Therefore, it may be that it is the need for superiority over others that lead narcissists to plan aggressive acts in pursuit of their goals. Research has delineated the positive self-views associated with each construct, with high self-esteem being associated with positive views on agentic (e.g., intellect, extraversion) and communal (e.g., agreeableness) characteristics, and narcissism being confined to positive self-views on agentic features (Campbell et al., 2002). Thus, to the extent that positive self-views incorporate other people, narcissism seems to relate to seeking admiration from others (Raskin et al., 1991) more so than getting along with them.

In consistent with the previous samples, adaptive and maladaptive traits of narcissism were also appraised to see whether they produce differential correlates with reactive and proactive aggression. The results seem to be harmonious with the findings from the sample from UK and Malaysia. That is, maladaptive narcissism, but not adaptive narcissism, was positively linked to indexes of aggression. This reinforces the fact that narcissists may be prone to aggression with or without provocation in order to be admired, and to manipulate others so that they can achieve what they perceived as best and 'deserved' by them (Ang, Ong, Lim, & Lim, 2010; Fossati et al., 2010). It also suggests that the narcissistic individuals may display extreme rage reactions to criticism, and are interpersonally sadistic without experiencing remorse or empathy (Hepper et al., 2014).

Explicit versus Implicit Measures of Self-Esteem

The results produced by the implicit measures (IAT) of self-esteem did not provide any significant prediction of aggressive behaviours, which is in line with the results of previous studies (Sandstrom & Jordan, 2008; Schröder-Abé, Rudolph, & Schütz, 2007; see also Chapters 2 and 3). The results also showed that there was no evidence for any interactions between implicit and explicit self-esteem, which again is consistent with Schröder-Abé, Rudolph, and Schütz (2007), although others have found such an interaction (Sandstrom & Jordan, 2008). The reasons for this apparent discrepancy in the results are unclear, but the various studies all use quite different populations (e.g., children, undergraduates, homeless young adults) and have used different measures of aggression (e.g., teachers' rating of aggressive behaviours in classroom, self-report frequency of occurrence of violence, or feelings of anger) and have found different patterns of interactions (e. g. low implicit and high explicit or high implicit and low explicit). Clearly, further work is needed to understand this complicated pattern of results.

There are several possible reasons why our measures of implicit self-esteem were not related to aggression. It has been suggested that "implicit self-esteem" (or variants of it related to agency and communion) may not actually exist. For example, Tafarodi and Ho (2006) contend that implicit self-esteem is an "ill-defined construct that fails to comport with the hermeneutic framework through which self-esteem is articulated as a central moral feature of personal identity" (p. 200). Instead, implicit measurement of self-esteem is merely another way that self-esteem can be measured and it is one that may be more immune to deliberate self-presentation strategies. If this is the case,

then the current results suggest that this indirect measure is of little value when considering the issue of aggression to others.

Finally, it is worth noting that all the measures of aggression in the present study required the person to explicitly report on their previous behaviours. Evidence supports the idea that explicit measures are good predictors of behaviours/thoughts that require deliberative processes, whilst implicit measures are good predictors of spontaneous or automatic behaviours/thoughts (Rudolph, Schröder-Abé, Riketta, & Schütz, 2010). Human aggression is likely to involve both automatic reactions and deliberative processes (indeed, this is, in part, the distinction between reactive and proactive aggression), and it is possible that these deliberative processes are the most important in governing the eventual manifestation of the aggressive behaviour. Perhaps indices of aggression that tap into more automatic evaluations or spontaneous aggression may provide an arena where implicit self-esteem may prove itself as a predictor of behaviour.

4.9.1 Limitations

The work presented in the present chapter has some limitations. It has relied on self-report for its measures of aggression. Self-report measures carry the risk that people may not honestly report their aggressive behaviour (or that some individuals may over-report) for social desirability reasons, and may also exaggerate their self-image. In this investigation, the responses of the participants were anonymous in order to minimise such distortions. Nevertheless, it would be worthwhile to look further for behavioural measures of aggression, such as those used in some studies that have proven to be useful in the study of the link between aggression and self-esteem (Maples et al., 2010;

Webster, 2006). In addition, the sample used in this current investigation had quite poor levels of literacy. Therefore, the IAT had not been completed by a relatively high percentage (15%) of the sample. Tests that do not rely on literacy may be needed in samples that contain people with low levels of literacy, such as those involved with forensic services, etc.

4.10 Conclusions

In summary, the work described in this chapter has shown that low global self-esteem is related to reactive aggression, whilst high levels of narcissism are related to proactive aggression. Previous findings were expanded by looking at the content dimensions of self-esteem. Communion (such as the feeling that you are not kind, friendly, etc.) is associated with aggression, and with proactive aggression in particular. However, agency (such as the feeling that you are dominant, energetic, etc.) is not related to aggression. One of the reasons for measuring such feelings is that it may be of use in the prediction of future aggression and the possible prevention of its occurrence. These results therefore suggest that the measurement of communion type traits may provide useful information for the clinical setting, and suggest possible avenues of treatment for an individual with low self-esteem. Unfortunately, the current findings did not support the utility of implicit measures of self-esteem as a useful instrument for clinical use.

CHAPTER 5

GENERAL DISCUSSION

5.1 Aims of this Thesis

Aggressive behaviour is of concern due to the impact on the victim and perpetrator, as well as its influence on society in general. There have been on-going debates concerning the theoretical relationships between self-esteem and aggression, and relevant studies have failed to produce consistent empirical evidence. The main aim of this thesis was to examine the relationships between different forms of self-esteem and different manifestations of aggression. Hence, due to the automatic cognitive processes that are involved in self-evaluations (Epstein & Morling, 1995; Epstein, 1994), this thesis employed the IAT as an indirect measure that is known to tap into automatic affective reactions in self-evaluation. As such, the IAT is arguably useful in addressing the limitation of self-report measures such as dealing with impression management, as well as to alleviate the effects of responding based on social desirability. The current investigation sought to determine whether implicit self-esteem, and its interaction with explicit self-esteem, could affect aggressive behaviours, particularly reactive and proactive aggression. An extreme form of high self-esteem, known as narcissism, was also taken into account when examining these relationships, with the inclusion of adaptive and maladaptive traits of narcissism. While most studies that have looked at these relationships were conducted in Western countries (e.g., Barry et al., 2007; Donnellan et al., 2005), the current investigation was carried out in a country that holds a different cultural value, and the distinctions of individualistic versus collectivistic were considered in order to explore whether these values have any influence on the relationships of interest. Finally, the investigation has been expanded to take into

consideration the content dimensions of self-esteem (i.e., agency-communion) in determining the relationships between self-esteem and reactive and proactive aggression in a high-risk population sample.

5.2 Summary of Findings

5.2.1 Self-Esteem and Aggression

The results within this thesis support the notion that certain forms of self-esteem are related to certain types of aggression. These findings also indicate that the relationships between self-esteem and aggression are somewhat intricate. The current findings, across each of the three empirical chapters, demonstrated that low global self-esteem is associated with high levels of aggression, specifically in reactive, but not proactive aggression, even after controlling for narcissism (Webster, 2006). Two different types of explicit measures of self-esteem (i.e., MSEI and the RSES)[12] have been utilised to suit the nature of the samples used in the current study. These robust relationships were consistent with Donnellan et al. (2005), who also found a strong relationship between low self-esteem and externalizing behaviours such as aggression across their three studies of different socio-demographic backgrounds.

This finding may suggest that there is a possibility that individuals with low global (explicit) self-esteem act aggressively as a way to defend and protect themselves from feelings of inadequacy, and hence externalize their blames, failures, and problems by acting outwardly in an aggressive manner (Ostrowsky, 2010). The feelings of inferiority may trigger the desire to harm those who they see as better than themselves

[12] The MSEI have been used on the normal sample populations (i.e., university students from the UK and Malaysia), while the RSES has been used on the high-risk sample.

(e.g., Bushman et al., 2009). It may also be that aggression is used as an attention-seeking behaviour that provides these individuals with a sense of power and independence (Ostrowsky, 2010), simply because they have nothing to lose. Reactive aggression may in part reflect a relatively normative and vicious defensive reaction when someone feels helpless and suffers a loss of self-control (Wallace et al., 2012).

5.2.2 Narcissism and Aggression

As expected, narcissism was related to aggression, especially with proactive aggression, across each sample. These relationships were robust, holding firm even when controlling for the variance accounted for by both the demographic variable (i.e., gender), and self-esteem, and when using the alternative subtype of aggression. These findings are compatible with those reported by Barry et al. (2007), and replicate the results of many others such as Salmivalli (2001), Washburn et al. (2004), and Seah and Ang (2008). The present results also showed that narcissists may use their maladaptive traits (i.e., Entitlement, Exploitativeness, and Exhibitionism; Barry & Malkin, 2010) to engage in reactive and proactive aggression. To date, at least to our knowledge, there have yet any published data particularly on these associations, making us the first to establish such findings from samples that behold to different cultures and that is high-risk. Narcissistic individuals strive for dominance and they have a desire to be superior and be admired that may lead them to easily disregard and exploit the rights of others (Martinez et al., 2008) for self-gain. Moreover, the lack of empathy in narcissist individuals (Hepper et al., 2014) may driven them to act aggressively. Provocation is not necessarily required in order for a narcissist to initiate an aggressive act or behaviour. The relationship between narcissism and proactive aggression can be clarified through the establishment of instrumental goals by the

perpetrators. In particular, the desire to maintain their grandiose sense of self and feelings of power over others may translate into self-initiated and exploitative acts of proactive aggression that are aimed at attaining their goals (Seah & Ang, 2008). Therefore, physiological arousal or a reaction that is associated with aggression, such as anger and hostility, does not necessarily have to be present. However, this is distinctive from the possible associations between narcissism and reactive aggression based on the perspective of the threatened egotism hypothesis (Baumeister et al., 1996; Bushman & Baumeister, 1998). That is, individuals with inflated yet fragile self-views may aggress when they encounter threats or in face of humiliation (Bushman et al., 2009; Thomaes et al., 2008), which in turn may weaken their grandiose self-view. Such aggressive acts in response to their inflated self-view may be compared with the hostile and retaliatory nature that characterizes reactive aggressive behaviour (Salmivalli, 2001).

Self-esteem and narcissism are distinct constructs that are positively related (e.g., Raskin et al., 1991). Current findings on the discrepancy between low self-esteem and high levels of narcissism or aggression may in part indicate that not all narcissists have similar levels of self-esteem (Locke, 2009). Thus, the inflation of self-esteem in some narcissists may be in part due to the "macho" cover-up of embarrassment (Walker & Bright, 2009). Consequently, a person would not be vulnerable to such offensive behaviours if they were genuinely secure in themselves.

5.2.3 Implicit Self-Esteem and Aggression

Whilst explicit self-esteem can be taken to reflect an individual's conscious, deliberative, and assessable view of self, implicit self-esteem can be regarded as the result of a more automatic and reflexive appraisal that may not be voluntarily accessible (e.g., Greenwald & Banaji, 1995; Greenwald & Farnham, 2000). While explicit self-esteem can be measured by traditional self-report methods, implicit self-esteem cannot. Therefore, implicit measures were needed to directly tap into an individual´s associative networks about the self in order to bypass reflective processes (Bosson et al., 2000). Instead of the conventional Implicit Association Test (IAT; Greenwald et al., 1998), the current thesis utilised its descendant, which was the Single-Target IAT (ST-IAT; Karpinski & Steinman, 2006; cf. Wigboldus, Holland, & van Knippenberg, 2004). The ST-IAT tapped into the automatic self-concept in a non-relative way. In particular, the category "other" that is typically used as a counter-category for the category "self" in an IAT was dropped (Karpinski, 2004). Current findings within this thesis have shown that implicit self-esteem, at least when measured by our current IAT technique, failed to show any direct relationship with aggression. So far, there have been few studies that have attempted to examine the relationship between implicit self-esteem (along with explicit self-esteem) and aggression. For instance, Sandstrom and Jordan (2008) measured implicit self-esteem (via an IAT), and used teachers' assessment on children's level of physical and relational aggression in the school setting. Schröder-Abé, Rudolph, and Schütz (2007) used the IAT to measure implicit self-esteem, and measured the outward manifestations of anger in a young adult population. Both studies also found no direct relationship between self-esteem and aggression. Note that these findings were yielded from different samples and different measures of aggression outcomes.

There are several possible reasons why the current results were not significant in predicting aggressive behaviours. Firstly, implicit self-esteem may be underpinned by a multidimensional 'implicitness' (Spalding & Hardin, 1999). Implicit self-esteem can imply characteristics that are conceptually distinct as to whether it is a) an unconscious components of the self-construct, b) respondent's unawareness that their self-esteem is being evaluated, or c) effects of the self-reportable self-esteem that occur outside conscious awareness, which place emphasis on an effect that is implicit rather than on self-concept contents that are implicit. Greenwald and Banaji (1995), however, claimed that implicit effects of self-esteem can be produced regardless of whether self-esteem is conscious or unconscious. Conversely, in some situations, individuals might anticipate that an unconscious element of self-esteem may affect their behaviour, whilst being incapable of recognizing the content of their self-esteem underlying the implicit effect. This may occur when an individual anticipates that responses to a projective test will be influenced by the unconscious self-concept, despite not being able to articulate the content disclosed by the test. The notion that respondents are not aware of the mental content allegedly revealed by the implicit measure (see (Gawronski, LeBel, & Peters, 2007) may be underpinned by different theoretical reasons. It might, for instance, reflect the existence of a distinct attitudinal self-representation that is inaccessible to awareness directly (i.e., a ''dual attitude"; Wilson, Lindsey, & Schooler, 2000), or it might reflect a more genuine aspect of a single self-representation that has been altered due to deliberate self-revision or self-presentation processes (see Olson et al., 2007; Tafarodi & Ho, 2006).

Secondly, there may not be such a thing as "implicit self-esteem". Implicit self-esteem may not exist because it may be purely self-esteem, as measured indirectly by IAT

(Gawronski et al., 2007; Tafarodi & Ho, 2006), or thought of as an obscure form of self-esteem that is self-standing and isolated from conscious moral reflection. The definition of implicit self-esteem as a construct of self-regard that is inaccessible for evaluation (Farnham et al., 1999), and the role of implicit measurement of self-esteem that is claimed to "define constructs that are distinct from, although correlated with, nominally the same constructs measured by self-report" (Greenwald & Farnham, 2000, p. 1034) appear to indicate two fully-fledged types of self-esteem within the same mind. However, Tafarodi and Ho (2006) argued that the methods and theoretical interpretations of this vague construct collapses with the hermeneutic framework, in which self-esteem is articulated as a key pillar of moral characteristics of personal identity. If indirect measurement of self-esteem is merely another way that self-esteem can be measured that may be more immune to deliberate self-presentation strategies, then the current results suggest that this indirect way has little value when considering the issue of aggression to others.

5.2.4 Interaction between Explicit and Implicit Self-Esteem and Aggression

Although the implicit measure was not by itself associated with aggression, and that the direct relationships appear to be rare, there is evidence that implicit self-esteem can serve to modify or interact with explicit self-esteem in its relationship with aggression. However, this has not been the case for findings within this thesis, as there was no significant interaction between explicit and implicit self-esteem in predicting reactive and proactive aggression. The current results therefore failed to replicate previous findings (e.g., Sandstrom & Jordan, 2008; Schröder-Abé, Rudolph, & Schütz, 2007)[13].

[13] It is noted that, these relationships were explored in the UK sample using other measures of aggression taken from Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992) and Richardson Conflict Response Questionnaire (RCRQ; Richardson & Green, 2003). It was found that a combination of high

If this were the case, a combination of low implicit self-esteem coupled with high explicit self-esteem (i.e., fragile self-esteem) would have appeared to fit with the notion of narcissism (Zeigler-Hill, 2006), in which defensive and aggressive behaviours may be used to bolster the fragile self-perception (e.g., Baumeister et al., 1996).

5.2.5 Agency and Communion with Aggression

Findings from the high-risk population sample revealed that the relationships of two basic content dimensions of self-esteem - namely agency and communion - with different types of aggression were not as expected. In particular, agency was not related to aggression, whereas communion showed a negative relationship with proactive, but not with reactive aggression on the explicit measure. These findings reflected the notion that high communion people (those who regard themselves as warm, kind, cooperative, etc.) are less prone to aggression, whereas those of low communion traits (those who feel rejected by others) are only aggressive when in pursuit of their personal goals, or when they wish to gain benefit from others. Based on a relatively different measure, this latter relationship may also be taken to resemble the notion of social inclusion (Kirkpatrick et al., 2002), which suggests that behaviours such as aggression may be monitored by a sociometer (Leary & Baumeister, 2000) in interpersonal relationships. Indeed, it would be unwise for people who enjoy social acceptance to put themselves at risk by isolating a potential ally and damaging their reputations by acting aggressively under such conditions.

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implicit and low implicit self-esteem (i.e., "*damaged*" self-esteem; Schroeder-Abe et al., 2007) was associated with hostility and indirect aggression.

In light of the findings, given that narcissists have tendencies toward self-aggrandizement and disparaging others, it can also be implied that some narcissists display an outward façade against their inner self-doubts, which distinguishes them from those with mere high self-esteem (e.g., Zeigler-Hill, Myers, & Clark, 2010). Thus, it might be possible that narcissists associate with others as a means for utilizing social influence and gaining the respect and admiration they desire (Raskin et al., 1991) rather than as a way to find intimacy and acceptance (Morf & Rhodewalt, 2001). Findings from the implicit measures of agency and communion failed to aid the prediction of aggression, and this may be in part due to the shortcomings of the current IAT techniques used throughout this investigation. In addition, it is possible that people have a lack of insight into the automatic components of dimensions of self-esteem (Bosson et al., 2008), which led them to inaccurately report these automatic attitudes.

The analyses conducted in the empirical chapters (Chapters 2, 3 and 4) have provided the answers for the proposed hypotheses of the current thesis. Table 5.1 summarises the findings.

Table 5.1. Summary of hypotheses and outcomes

No.	Objective	Hypothesis	Outcome
1.	To investigate the relationship between global (explicit) self-esteem and aggression.	Global (explicit) self-esteem is negatively related to aggression, and to reactive aggression in particular.	Supported
2.	To investigate the relationship between narcissism and aggression.	Narcissism is positively related to aggression, and to proactive aggression in particular.	Supported
3.	To investigate the relationship between implicit self-esteem and aggression.	Implicit self-esteem is significantly related to reactive and proactive aggression.	Not Supported
4.	To examine whether explicit and implicit self-esteem interact in predicting aggression.	There is a significant interaction between levels of explicit and implicit self-esteem in predicting the levels of aggression.	Not Supported
5.	To compare the levels of aggression between the individualistic and collectivistic cultures.	The individualistic culture shows greater levels of reactive aggression, but the levels of proactive aggression would be similar across both cultures.	Not supported
6.	To compare the pattern of self-esteem and aggression relationship between the individualistic and collectivistic culture.	There is a significant difference in the pattern of self-esteem and aggression relationship between the individualistic and collectivistic cultures.	Not Supported
7.	To investigate the relationship between agency-communion dimension of self-esteem with aggression.	Agentic self-esteem is related to proactive, but not reactive aggression.	Not supported

5.3 Clinical Implications

Overall, the present research helps to resolve the debates in the literature by demonstrating that the differential self-esteem-aggression relationships were indeed strong and consistent with evidence from different sample characteristics. This research also serves as an important basis for those who are interested in these relationships in different cultures, given that these findings also add support to the lack of existing data on reactive and proactive aggression in non-Western contexts (Xu & Zhang, 2008). This study may therefore represent one of the first attempts to address the need to delve deeper into more sophisticated typologies of aggression, and to assess its applicability in the Asian context (e.g., Seah & Ang, 2008). It is noted that, until now, no published studies had been conducted in Asia (particularly in Malaysia) and among the high-risk individuals, that have attempted to explore the typology of reactive–proactive aggression and its differential correlates to the multidimensional self-esteem using both explicit and implicit measures, as well as looking at adaptive and maladaptive traits of narcissism, making this study the first to do so. It is hoped that this research-based evidence will inform both practice and policy, and thus serve as a useful guide to help reduce the occurrences of aggression and violence through relevant programs and risk assessments. Therefore, it may be crucial for any interventions to take into account how the individual views him or herself in a number of different domains, considering their explicit as well as their implicit self-views.

One of the strengths of this thesis is the focus on emerging adulthood age groups, where the averages of age in the three samples were between 20 to 23. The current results, albeit limited in terms of providing implicit evidence of self-esteem, may be of benefit for interventions that focus on boosting self-esteem in the treatment of

aggression, especially in young children and samples from clinical/ forensic settings. In light of these results, it was suggested that assessments based on domains of self-esteem are probably more clinically useful than those that are limited to using only global measures self-esteem. These considerations have imperative implications for other researchers interested in how self-views relate to behaviour. Understanding that explicit self-esteem may rely upon socially desirable responding, it is also important to consider how implicit self-esteem relates to aggressive behaviour, and how discrepancies in these attitudes (i.e., explicit and implicit self-esteem) may affect behaviour outcomes. Each represent distinct evaluations of the self that exist at different processing levels, so focusing only on explicit or implicit self-esteem may obscure the relations between self-views and self-relevant behaviour (that is, aggression). Therefore, the present findings suggest that it might be important for clinicians to be able to scrutinize all these aspects of self-view, although as yet there are no highly effective assessment tools for measuring implicit self-esteem in the clinical area. Finally, in spite of their potential applicability, the current findings need to be considered in light of the following limitations.

5.4 Current Research Limitations

5.4.1 Potential Issues with Research Design

The correlational design and the cross-sectional nature of the current data make it impossible to rule out alternative causal interpretations. Given that the current samples within this thesis were drawn from university samples from the UK and Malaysia, these results may not be entirely representative of adults from individualistic and collectivistic societies. Moreover, results from the high-risk population sample in this thesis were obtained from a voluntary sample and do not claim to be generalizable to

samples exhibiting aggressive behaviour to a clinical degree. Nevertheless, in being able to detect a significant pattern of results concerning the implicit measures in a voluntary sample, it may be possible to suggest a higher likelihood of a similar pattern of findings emerging in youths displaying serious aggression problems and in samples from clinical or forensic populations.

5.4.2 Potential Issues with Current Self-Report Measures

The results described in this thesis, particularly those pertaining to aggression, have relied solely on self-report questionnaires to assess the differential characteristics of reactive and proactive aggression. As a consequence, participants may have underreported their retrospective aggressive behaviours, as they might have been motivated to provide socially desirable responses. If this was the case, then this would have affected the relationships in this investigation, as there is the possibility that people might have faked their responses to possibly minimise the reported frequency of aggression performed in their past.

5.4.3 Potential Issues with Current IAT Measures

The present null findings suggest that there may be some possible issues with the current IAT measures of self-esteem (and its variants) in this study. It could be that the IATs utilised in this thesis were measured wrongly. As previously mentioned, the ST-IAT (Wigboldus et al., 2004) was chosen over the conventional IAT (Greenwald et al., 1998). Instead of measuring the positive and negative associations a person has with the self in comparison to an unspecified "other", an alternative approach was taken to measure only evaluative associations with the self with no complementary category (see Karpinski, 2004), which was not possible within the standard IAT paradigm.

However, despite the concerns that the "other" category might introduce unwanted error variance (Pinter & Greenwald, 2005), Uhlmann and Swanson (2004) for instance, have demonstrated that assessing automatic self-concept works better if relying on a relative implicit measure, which was at least very helpful in social comparison by making use of the opposite category "other." This also implied that the IATs suffer from a lack of standardisation, with studies featuring variations in the category labels and stimuli that are presented to participants. Karpinski (2004) claimed that even changes in the wording of implicit measures might have profound effects on respondents' scores, such that changing the comparison category in the IAT from not-self to best friend, boyfriend, or girlfriend substantially reduced respondents' resulting implicit self-esteem scores. Subtle differences in the contexts in which researchers administer implicit measures, or differences in participants' moods, physical or cognitive states, or immediate prior experiences when they complete these measures, may alter their implicit self-esteem scores from one administration to the next (see Blair, 2002, for a review of context effects in implicit attitude measures).

It could also be suggested that the current findings themselves did not produce any significant results regardless of the reliability and validity of the IATs. Despite the potential utility of implicit self-esteem measures, there are significant concerns about these measures. The non-conscious nature of implicit self-esteem makes the assessment of this construct extremely difficult. Due to the fact that measurement of implicit self-esteem is still in its infancy, there is no clear consensus as to which, if any, of the techniques currently in use accurately measure implicit self-esteem. As such, it may be possible that some of the current implicit measures are actually reflecting non-conscious associations with the self (i.e., measuring implicit self-

esteem), whereas other measures are tapping into conscious self-evaluations which individuals are reluctant to report on explicit measures (i.e., implicitly measuring explicit self-esteem; see Fazio & Olson, 2003). The term "implicit" measure denotes functional properties of measurement outcomes (e.g., the awareness of the content/ consequences of the evaluation in question) and not objective properties of measurement procedures (De Houwer, 2006). Hence, as the functional property of the implicit measure varies, so it is critical that the exact meaning of 'implicit' be clearly specified (Gawronski et al., 2007). In spite of the fact that implicit self-esteem is likely to be multifaceted (e.g., Bosson et al., 2000) it has been treated as a unitary construct in the majority of studies that have used the IAT, and this could explain why it has been difficult to establish a relationship between implicit self-esteem and aggression.

5.5 Future Direction

The followings are some additional areas that might benefit for research in the future:

1. As the present results did not provide information pertaining to directionality of the findings, future studies could use a longitudinal design in order to provide more confidence about temporal directions of effect between constructs.
2. There is a dearth of published research studies in this topic area using Asian samples. The present findings have provided a basic understanding of the associated characteristics of aggression in adults. Thus, a richer understanding of the association between self-esteem and aggression would be obtainable through the implementation of this study on children and adolescents, especially among Asian populations.

3. Future studies could extend the present findings by using implicit measures of aggression or by measuring aggression in laboratories instead of relying solely on the self-report measures.
4. The use of a more standardised measure of implicit self-esteem, which potentially measures multidimensional implicit self-esteem is crucially needed in order to capture the automatic processes involved in the development of aggressive behaviour.

5.6 Concluding Remarks

This thesis sought to examine the ambiguous relationships between self-esteem and aggression in different contexts. It attempted to do so by looking at both controlled and automatic components of self-esteem, a construct that is related but distinct from self-esteem, and also included the basic content dimensions of self-esteem in predicting two different functions of aggression. The results of this study replicated the central finding of Kirkpatrick et al. (2002) that aggression is related differentially to functionally distinct domains of self-esteem. In particular, using self-report (explicit) measures, this thesis provided strong support for the notion that low global (explicit) self-esteem is associated with reactive aggression, whereas high levels of narcissism is related greater levels of proactive aggression. Whilst looking at the interpersonal content dimensions of self-esteem, the communion self-concept was negatively correlated with aggression, and to proactive aggression in particular, whereas the agency self-concept was not related to aggression. However, the implicit measures of self-esteem (and its variants) showed no support for the relationships of interest, as they have not succeeded in predicting any aggression outcomes.

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APPENDIX A - UK STUDY

A1 Demographic Questionnaire

Part A

First Name: _____
Surname: _____
Gender: _____
Date of Birth: _____
Place of Birth: _____

Part B

Please provide us with as much of the following information as possible. If you do not feel comfortable answering a question you may leave it blank.

Gender: _____

Age: _____

Ethnicity: _____

Religious Affiliation (e.g. Christian, Muslim, no affiliation): _____

Place of Birth: _____

How religious do you consider yourself to be?

1 2 3 4 5

Not at all **Moderately** **Extremely**

Occupational Status (if student please indicate this as well as any other part/full-time jobs):

_____

Monthly Income (excluding student loans/grants):

_____

Current Level of Educational Attainment (not including any qualifications you are currently studying/working towards):

_____

Current Marital Status (please indicate if in a dating relationship):

_____

Length of Current Romantic Relationship (if applicable):

_____

Current Marital Status of Parents (if either parent is remarried, please indicate this separately):

_____

A2 Self-esteem IAT

Words presented for classification (items in italics will be determined ideographically based on the responses given in demographic form A):

Me	**Love**	**Hate**
(*First Name)*	Love	Hate
(Surname)	Like	Disgust
(Gender)	Nice	Dislike
(Date of Birth)	Good	Horrible
(Place of Birth)	Adore	Nasty

Words presented for categorisation (words in italics will be generated by researcher to represent terms unrelated to the participant after participant has completed part A of the demographic form)

Other People	**Love**	**Hate**
(First Name)	Love	Hate
(Surname)	Like	Disgust
(Gender)	Nice	Dislike
(Date of Birth)	Good	Horrible
(Place of Birth)	Adore	Nasty

A3 The Multidimensional Self-Esteem Inventory (MSEI - O'Brien & Epstein, 1988)

Please indicate how accurately each of the following statements describes you by circling the appropriate number. Work as fast as you can without making careless errors. It is best to rely on first impressions in answering each item. If you do not feel comfortable answering a question you may leave it blank.

Section 1

1	2	3	4	5
Completely False	**Mainly False**	**Partly True and Partly False**	**Mainly True**	**Completely True**

1	I often fail to live up to my moral standards	1	2	3	4	5
2	I nearly always feel that I am physically attractive	1	2	3	4	5
3	I occasionally have doubts about whether I will succeed in life	1	2	3	4	5
4	I have trouble letting others know how much I care for and love them	1	2	3	4	5
5	No matter what the pressure, no one could ever force me to hurt another human being	1	2	3	4	5
6	I am very well-liked and popular	1	2	3	4	5
7	On occasion, I have tried to find a way to avoid unpleasant responsibilities	1	2	3	4	5
8	I occasionally worry that in the future I may have a problem with controlling my eating or drinking habits	1	2	3	4	5
9	It is often hard for me to make up my mind about things because I don't really know what I want	1	2	3	4	5
10	I am not easily intimidated by others	1	2	3	4	5
11	I am usually able to demonstrate my competence when I am being evaluated	1	2	3	4	5
12	I don't have much of an idea about what my life will be like in 5 years time	1	2	3	4	5
13	I nearly always feel that I am physically fit and healthy	1	2	3	4	5
14	I usually do the decent and moral thing, no matter what the temptation to do otherwise	1	2	3	4	5
15	There are times when I doubt my sexual attractiveness	1	2	3	4	5
16	I sometimes have a poor opinion of myself	1	2	3	4	5

17	There are times when I have doubts about my capacity for maintaining a close love relationship	1	2	3	4	5
18	The thought of shoplifting has never crossed my mind	1	2	3	4	5
19	I sometimes feel disappointed or rejected because my friends haven't included me in their plans	1	2	3	4	5
20	There have been times when I have felt like getting even with somebody for something they have done to me	1	2	3	4	5
21	I feel that I don't have enough self-discipline	1	2	3	4	5
22	In general. I know who I am and where I am headed in my life	1	2	3	4	5
23	I am usually a lot more comfortable being a follower than a leader	1	2	3	4	5
24	Most people who know me consider me to be a highly talented and competent person	1	2	3	4	5
25	I often feel that I lack direction in my life - i.e. That I have no long-range goals or plans	1	2	3	4	5
26	I nearly always feel that I am better physically co-ordinated than most people (of my own age and sex)	1	2	3	4	5
27	I almost always have a clear conscience concerning my sexual behaviour	1	2	3	4	5
28	There have been times when I felt ashamed of my physical appearance	1	2	3	4	5
29	I put myself down too much	1	2	3	4	5
30	In times of uncertainty and self-doubt, I have always been able to turn to my family for encouragement and support	1	2	3	4	5
31	I have never felt that I was punished unfairly	1	2	3	4	5
32	My friends almost always make sure to include me in their plans	1	2	3	4	5
33	There have been times when I intensely disliked someone	1	2	3	4	5
34	I am sometimes concerned over my lack of self-control	1	2	3	4	5
35	Once I have considered an important decision thoroughly, I have little difficulty making a final decision	1	2	3	4	5
36	I have no problem with asserting myself	1	2	3	4	5
37	There are no areas in which I have a truly outstanding ability	1	2	3	4	5

38	Sometimes it's hard for me to believe that the different aspects of my personality can be part of the same person	1	2	3	4	5
39	Most of the people I know are in better physical condition than I am	1	2	3	4	5
40	I often feel guilty about my sexual behaviour	1	2	3	4	5
41	I usually feel that I am better looking than most people	1	2	3	4	5
42	All in all, I would evaluate myself as a relatively successful person at this stage in my life	1	2	3	4	5
43	There have been times when I have felt rejected by my family	1	2	3	4	5
44	It hardly ever matters to me whether I win or lose a game	1	2	3	4	5
45	On occasion I have avoided dating situations because I feared rejection	1	2	3	4	5
46	There have been times when I have lied to get out of something	1	2	3	4	5
47	I often give in to temptation and put off work on difficult tasks	1	2	3	4	5
48	I seldom experience conflict between the different sides of my personality	1	2	3	4	5
49	I feel I have a lot of potential as a leader	1	2	3	4	5
50	I am usually able to learn new things very quickly	1	2	3	4	5
51	I often feel torn in different directions and unable to decide which way to go	1	2	3	4	5
52	I occasionally have had the feeling that I have "gone astray" and that I am leading a sinful or immoral life	1	2	3	4	5
53	I have occasionally felt that others were repelled or "put off" by my physical appearance	1	2	3	4	5
54	I nearly always have a highly positive opinion of myself	1	2	3	4	5
55	I occasionally feel that no one really loves me and accepts me for the person I am	1	2	3	4	5
56	I have almost never felt the urge to tell someone off	1	2	3	4	5
57	People nearly always enjoy spending time with me	1	2	3	4	5
58	There have been occasions when I took advantage of someone	1	2	3	4	5
59	I have difficulty maintaining my self-control when I am under pressure	1	2	3	4	5

60	I have often acted in ways that went against my moral values	1	2	3	4	5
61	I am usually very pleased and satisfied with the way I look	1	2	3	4	5

Section 2

1	2	3	4	5
Almost Never	**Seldom or Rarely**	**Sometimes**	**Fairly Often**	**Very Often**

62	How often do you expect to perform well in situations that require a lot of ability?	1	2	3	4	5
63	How often do you lose when you get into arguments or disagreements with others?	1	2	3	4	5
64	Do you ever "stretch the truth" and say things that aren't completely true?	1	2	3	4	5
65	How often do you feel confident that you have (or will someday have) a lasting love relationship?	1	2	3	4	5
66	When you are meeting a person for the first time, do you ever think that the person might not like you?	1	2	3	4	5
67	How often do you feel proud of the way that you stay with a task until you complete it?	1	2	3	4	5
68	How often do you feel dissatisfied with yourself?	1	2	3	4	5
69	How often do you feel that others are attracted to you because of the way you look?	1	2	3	4	5
70	How often do you feel a sense of vitality and pleasure over the way your body functions in physical activities?	1	2	3	4	5
71	How often do you feel uncertain of your moral values?	1	2	3	4	5
72	How often do you feel self-conscious or awkward while you are engaged in physical activities?	1	2	3	4	5
73	How often do you feel very certain about what you want out of life?	1	2	3	4	5
74	How often do you have trouble learning new tasks	1	2	3	4	5
75	When you are involved in group discussions, how often do you feel that your ideas have a strong influence on others?	1	2	3	4	5

76	Do you ever gossip?	1	2	3	4	5
77	How often do members of your family have difficulty expressing their love for you?	1	2	3	4	5
78	How often do you feel certain that people you meet will like you?	1	2	3	4	5
79	How often are you pleased with yourself because of the amount of self-discipline and willpower that you have?	1	2	3	4	5
80	How often do you feel that you are a very important and significant person?	1	2	3	4	5
81	How often do you wish that you were more physically attractive?	1	2	3	4	5
82	How often does your body perform exceptionally well in physical activities, such as dancing or sports?	1	2	3	4	5
83	How often do you (by your behaviour) set a good moral example for others younger than yourself?	1	2	3	4	5
84	How often do you feel clumsy when you are involved in physical activities?	1	2	3	4	5
85	How often do you feel conflicted or uncertain about your career plans?	1	2	3	4	5
86	How often do you feel that you can do well at almost anything you try?	1	2	3	4	5
87	How often are you able to be assertive and forceful in situations where others are trying to take advantage of you?	1	2	3	4	5
88	Have you ever felt irritated when someone asked you for a favour?	1	2	3	4	5
89	How often do you feel able to openly express warm and loving feelings towards others?	1	2	3	4	5
90	Does it ever seem to you that some people dislike you intensely, that they "can't stand" you?	1	2	3	4	5
91	How often do you feel that you are more successful than most people at controlling your eating and drinking behaviour?	1	2	3	4	5
92	How often do you feel really good about yourself?	1	2	3	4	5
93	How often are you complemented on your physical appearance?	1	2	3	4	5
94	How often do you feel in top physical condition?	1	2	3	4	5

95	How often are you pleased with your sense of moral values?	1	2	3	4	5
96	How often does your body feel "out of sorts" or sluggish?	1	2	3	4	5
97	Have you ever felt that you lacked the intelligence needed to success in certain types of interesting work?	1	2	3	4	5
98	Do you enjoy it when you are in a position of leadership?	1	2	3	4	5
99	Have you ever felt jealous of the good fortune of others?	1	2	3	4	5
100	Have you ever felt alone and unloved?	1	2	3	4	5
101	When you go out with someone for the first time, how often do you feel that you are well-liked?	1	2	3	4	5
102	How often are you able to exercise more self-control than most of the people you know?	1	2	3	4	5
103	How often do you feel highly satisfied with the future you see for yourself?	1	2	3	4	5
104	How often do you feel unattractive when you see yourself naked?	1	2	3	4	5
105	How often do you enjoy having other watch you while you are engaged in physical activities such as dancing or sports?	1	2	3	4	5
106	How often do you feel highly satisfied with the way you live up to your moral values?	1	2	3	4	5
107	How often do you feel that you are not as intelligent as you would like to be?	1	2	3	4	5
108	How often do you feel uneasy when you are in a position of leadership?	1	2	3	4	5
109	How often is it hard for you to admit it when you have made a mistake?	1	2	3	4	5
110	How often do people whom you love go out of their way to let you know how much they care for you?	1	2	3	4	5
111	How often do you feel that you are one of the most popular and likeable members of your social group?	1	2	3	4	5
112	How often are you able to resist temptations and distractions in order to complete tasks you are working on?	1	2	3	4	5
113	How often do you feel lacking in self-confidence?	1	2	3	4	5

114	How often do you approach new tasks with a lot of confidence in your ability?	1	2	3	4	5
115	How often do you have a strong influence on the attitudes and opinions of others?	1	2	3	4	5
116	How often do you gladly accept criticism when it is deserved?	1	2	3	4	5

A4 The Narcissistic Personality Inventory (NPI - Raskin & Terry, 1988)

This inventory consists of a number of pairs of statements with which you may or may not identify.

Consider this example:

A. I like having authority over people
B. I don't mind following orders

Which of these two statements is closer to your own feelings about yourself? If you identify more with "liking to have authority over people" than with "not minding following orders", then you would choose option A.

You may identify with both A and B. In this case you should choose the statement which seems closer to yourself. Or, if you do not identify with either statement, select the one that is least objectionable or remote. In other words, read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by circling the letter (A or B) for each item. If you do not feel comfortable answering a question you may leave it blank.

	A		B	
1	A	I have a natural talent for influencing people	B	I am not good at influencing people
2	A	Modesty doesn't become me	B	I am essentially a modest person
3	A	I would do almost anything on a dare	B	I tend to be a fairly cautious person
4	A	When people compliment me I sometimes get embarrassed	B	I know that I am good because everybody keeps telling me so
5	A	The thought of ruling the world frightens the hell out of me	B	If I ruled the world it would be a better place
6	A	I can usually talk my way out of anything	B	I try to accept the consequences of my behaviour
7	A	I prefer to blend in with the crowd	B	I like to be the centre of attention
8	A	I will be a success	B	I am not too concerned about success
9	A	I am no better or worse than most people	B	I think I am a special person
10	A	I am not sure if I would make a good leader	B	I see myself as a good leader
11	A	I am assertive	B	I wish I were more assertive
12	A	I like to have authority over other people	B	I don't mind following orders

13	A	I find it easy to manipulate people	B	I don't like it when I find myself manipulating people
14	A	I insist upon getting the respect that is due me	B	I usually get the respect I deserve
15	A	I don't particularly like to show off my body	B	I like to show off my body
16	A	I can read people like a book	B	People are sometimes hard to understand
17	A	If I feel competent I am willing to take responsibility for making decisions	B	I like to take responsibility for making decisions
18	A	I just want to be reasonably happy	B	I want to amount to something in the eyes of the world
19	A	My body is nothing special	B	I like to look at my body
20	A	I try not to be a show off	B	I will usually show off if I get the chance
21	A	I always know what I am doing	B	Sometimes I am not sure of what I am doing
22	A	I sometimes depend on people to get things done	B	I rarely depend on anyone else to get things done
23	A	Sometimes I tell good stories	B	Everybody likes to hear my stories
24	A	I expect a great deal from other people	B	I like to do things for other people
25	A	I will never be satisfied until I get all that I deserve	B	I take my satisfactions as they come
26	A	Compliments embarrass me	B	I like to be complemented
27	A	I have a strong will to power	B	Power for its own sake doesn't interest me
28	A	I don't care about new fads and fashions	B	I like to start new fads and fashions
29	A	I like to look at myself in the mirror	B	I am not particularly interested in looking at myself in the mirror
30	A	I really like to be the centre of attention	B	It makes me uncomfortable to be the centre of attention
31	A	I can live my life any way I want to	B	People can't always live their lives in terms of what they want
32	A	Being an authority doesn't mean that much to me	B	People always seem to recognise my authority
33	A	I would prefer to be a leader	B	It makes little difference to me whether I am a leader or not
34	A	I am going to be a great person	B	I hope I am going to be successful
35	A	People sometimes believe what I tell them	B	I can make anybody believe anything that I want them to

36	A	I am a born leader	B	Leadership is a quality that takes a long time to develop
37	A	I wish that somebody would someday write my biography	B	I don't like people to pry into my life for any reason
38	A	I get upset when people don't notice how I look when I go out in public	B	I don't mind blending into the crowd when I go out in public
39	A	I am more capable than other people	B	There is a lot that I can learn from other people
40	A	I am much like everybody else	B	I am an extraordinary person

A5 The Reaction-Proactive Aggression Questionnaire (RPQ - Raine et al., 2006)

There are times when most of us feel angry or have done things we should not have done. Rate each of the items below by circling the appropriate number. Do not spend a lot of time thinking about the items – just give your first response. If you do not feel comfortable answering a question you may leave it blank.

		Never	Sometimes	Often
1	Yelled at others when they have annoyed you	1	2	3
2	Had fights with others to show who was on top	1	2	3
3	Reacted angrily when provoked by others	1	2	3
4	Taken things from others	1	2	3
5	Become angry when frustrated	1	2	3
6	Vandalised something just for fun	1	2	3
7	Had temper tantrums	1	2	3
8	Damaged something because you felt mad	1	2	3
9	Had a fight just to be cool	1	2	3
10	Hurt others to win a game	1	2	3
11	Become angry when you don't get your way	1	2	3
12	Used force to get others to do what you want	1	2	3
13	Become angry or mad when you lost a game	1	2	3
14	Become angry when others threatened you	1	2	3
15	Used force to obtain money or things from others	1	2	3
16	Felt better after hitting or yelling at someone	1	2	3
17	Threatened and bullied someone	1	2	3
18	Made obscene phone calls for fun	1	2	3
19	Hit others to defend yourself	1	2	3
20	Got others to gang up on somebody else	1	2	3
21	Carried a weapon to use in a fight	1	2	3
22	Become angry or mad or hit others when teased	1	2	3
23	Yelled at others so they would do things for you	1	2	3

A6 Credit/Paid Participant Information Sheet

You are invited to take part in an investigation into the relationship between various aspects of personality and having a history of potentially harmful behaviours. Please note that in this study we will be asking you (via questionnaires that you will fill in anonymously) about potentially distressing topics such as self-harm and violence. Our aim is to better understand the origins of these behaviours (or lack of them) so that we are keen to recruit people that have experienced such events AND those that have not experienced such events. What is important is that you are able to be honest in your replies to the questions.

The current investigation is open to all members of the Electronic Management System. Given the amount of reading required, and that some of the tasks require rapid responding to written words, only those for whom English is their first language should take part. If English is not your first language, please inform the researcher.

At the start of the experiment you will be asked to complete two brief questionnaires providing some demographic information (name, age, etc.). The information you provide on part A of the demographic form will be used within a later computer reaction time task. Anonymity will be maintained as this personally identifiable information will be destroyed/deleted from the computer database immediately after you have completed the experiment.

During this experiment you will be asked to complete four reaction time tasks. Within these tasks you will be presented with a series of single words on a computer screen and will have to try and categorise them in to one of three categories as quickly as possible. You will also complete a number of questionnaires designed to assess a variety of personality characteristics, relationship experiences and past behaviour. Finally, you will also complete a brief measure of intelligence, in which you will be asked to pronounce a series of increasingly complex words. Given the lengthy nature of this experiment (around 2- 2 ½ hours), two 10 minute refreshment breaks will be offered during the session. After completing all of the experimental measures you will be asked to choose between three short comedy films to watch before leaving the lab.

The study is interested in factors that both lead to and may help protect against aggressive behaviours, including harming yourself, being the victim of aggression, and being aggressive to others. Therefore, some of the questions asked will be of a very sensitive nature and may cause upset or discomfort. If you do not feel comfortable or happy to answer questions related to these areas, please do not consent to take part in this study – you are under no obligation to take part and can leave at any time without giving a reason to the experimenter and without losing any already accrued credits or payment.

If you do decide to take part, but become uncomfortable answering a particular question, please feel free to leave this question blank and move on to the next. If you do decide to take part, please be assured that all information provided within this experiment will be completely anonymous. You will be assigned a participant number which will be used to link up all your responses across the measures used and there will be no link between this anonymity number and your real name. As a result, no one will be able to link the answers you provide today back to you.

Participation within this experiment is voluntary and you are free to withdraw at any time, without providing a reason and without losing already accrued credits or payment. Given the anonymous nature of the data collected, you will not be able to withdraw your data after completing the experiment. Your responses to the various questionnaires will be stored in a secure location within the psychology department and your responses to the computerised reaction time tasks will be stored on a secure electronic database. Only members of the research team and our supervisor will have access to these secure documents.
At the end of the experiment we will provide you with further information about our study and you will be able to ask questions. We will also provide literature relating to the Cardiff University Counselling Service if you feel that the questions have distressed you in any way.

There are three ways you can chose to be rewarded for participating in this study:

1) You can choose to receive up to 10 EMS credits for your time (rate of 1 credit per 15 minutes)
2) You can choose to receive up to £15 in cash for your time (rate of £6 an hour)
3) You can choose to receive part-credit part-cash payment for your time. For example, if you only need 6 more credits to meet your EMS quota for this semester, you can chose to receive these as well as £6 for the additional hour you participated.

Please be aware that the researchers conducting this study are postgraduate students at Cardiff University and not trained clinicians. If you have any questions regarding this research project, either before or after taking part, please contact either of the researchers or their supervisor using the details provided below:

Suzana Amad
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Tower Building, Park Place
Cardiff
CF10 3AT
Email: bintiamad@cardiff.ac.uk

Prof. Robert Snowden (Supervisor)
School of Psychology
Cardiff University
Tower Building, Park Place
Cardiff, CF10 3AT
Email: snowden@cardiff.ac.uk
Tel: 029 208 74937

This research project has received ethical approval from the School Research Ethics Committee. If you have any concerns regarding the current project and would like to make a complaint, please contact the School of Psychology ethics secretary:

Dominique Mortlock
School of Psychology
Cardiff University, Tower Building, Park Place
Cardiff, CF10 3AT
Email: MortlockD@cardiff.ac.uk
Tel: 029 208 70360

Thank you for considering participation in this study.

A7 Consent Form

School of Psychology, Cardiff University
Consent Form - Anonymous data

I understand that my participation in this project will involve completing a series of questionnaires about aspects of my personality, experiences in relationships and past behaviour, as well as completing four computer based reaction time tasks and a brief measure of intelligence. I understand the experiment will take between 2 -2.5 hours of my time.

I understand that some of these questions are of a highly sensitive nature and may cause distress or discomfort. These questions are related to self-harming behaviour, aggression and being a victim of aggression. I understand that I am free to leave such questions blank if I feel uncomfortable providing such information.

I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any time without giving a reason and without loss of payment (or course credit).

I understand that I am free to ask any questions at any time. I am free to withdraw or discuss my concerns with Prof. Robert Snowden.

I understand that the information provided by me will be held totally anonymously, so that it is impossible to trace this information back to me individually. I understand that this information may be retained indefinitely.

I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

I, _____(NAME) consent to participate in the study conducted by Suzana Amad, School of Psychology, Cardiff University with the supervision of Prof. Robert Snowden.

Signed:
Date:

A8 Debrief Form and Verbal Debrief Script

Self Esteem and Internalising/ Externalising Behaviours

Thank you for taking part in this study.

The purpose of the investigation was to examine links between, self-esteem and various problematic behaviours. Consequently, lower levels of self-esteem are expected to be related to the presence of particular personality traits and problematic behaviours (i.e., self-harming and being aggressive towards others). We measured self-esteem using both self-report questionnaires as well as other more indirect measures (the Implicit Association Test; IAT) that look at how concepts are associated in your mind.

An IAT was designed to assess your level of implicit self-esteem. Your response on this self-esteem IAT will be compared to your scores on the Multidimensional Self Esteem Inventory (MSEI), which provides an index of global self-esteem, as well as ten distinct facets of self-esteem (competence, loveability, likeability, self-control, personal power, moral self-approval, body appearance, body functioning, identity integration and defensive self enhancement). The remaining IAT was designed to assess your feelings towards other people by comparing the speed of your speed response with terms that were categorised as unrelated to yourself when paired with words associated with love versus hate.
The current project sought to investigate the links between both the newly developed IAT measures and the established self-report questionnaires with several problematic behaviours and personality characteristics. These behaviours and personality characteristics were assessed using the following self-report questionnaires:

1) The Cardiff Self-Injury Inventory (CSII)
2) The Reactive-Proactive Aggression Questionnaire (RPQ)
3) The Richardson Conflict Responding Questionnaire (RCRQ
4) The Cardiff Aggression Inventory (CAI)
5) The Aggression Questionnaire (AQ)
6) The Narcissistic Personality Inventory (NPI)*

* This is NOT a diagnostic tool.

Finally, before leaving the lab you were asked to watch a short comedy video. This was designed to reverse any potentially negative effects answering sensitive questions had on your mood.
Please note that the researchers involved in this project are postgraduate students and not trained clinicians. Therefore, you should not regard completion of any mental health questionnaire as a clinical screening procedure. If you want help for any personal issues then please contact your GP or the Cardiff University Counselling Service (see leaflets provided).

Please be assured that all the information provided within this investigation will be held anonymously. None of the responses given can be traced back to participants as your personal information will be deleted immediately. As a result we are unable to provide any feedback on individual performance. The results of this study will be used

to test models of the aetiology of problematic behaviours and to provide a baseline for comparison with other populations (e.g. prisoners, clinical patients, and members of other cultures).

The following references are provided should you wish to learn more about any of the procedures used within the current investigation:

The relationship between self-esteem and violence: Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*, 5-33.

Violence within relationships: Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin, 126*, 651-680.

Self-esteem and self-harming: Vater, A., Schröder-Abé, M., Schütz, A., Lammers, C.-H., & Roepke, S. (2010). Discrepancies between explicit and implicit self-esteem are linked to symptoms severity in borderline personality disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 41*, 357-364.

Should you have any further questions regarding the current investigation or your participation, please contact either of the researchers or their supervisor:

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This research project has received ethical approval from the School Research Ethics Committee. If you have any concerns regarding the current project and would like to make a complaint, please contact the School of Psychology ethics secretary:

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APPENDIX B – CROSS-CULTURAL STUDY MATERIALS (BILINGUAL VERSION)

B1 Self Esteem IAT

Words presented for classification (items in italics will be determined ideographically based on the responses given in demographic form A):

Me	**Love**	**Hate**
(*First Name)*	Sayang	Benci
(Surname)	Suka	Meluat
(Gender)	Cantik	Tak suka
(Date of Birth)	Bagus	Teruk
(Place of Birth)	Kagum	Jahat

B2 The Multidimensional Self-Esteem Inventory (MSEI - O'Brien & Epstein, 1988)

Sila BULATKAN nombor yang paling tepat berkaitan dengan diri anda.
Please CIRCLE the number that best describes you.

Section 1

1	2	3	4	5
Semua Palsu/ ***Completely False***	**Kebanyakan palsu/** ***Mainly False***	**Sebahagian Benar Sebahagian Palsu/** ***Partly True and Partly False***	**Kebanyakan Benar/** ***Mainly True***	**Semua Benar/** ***Completely True***

1	Saya sering gagal untuk hidup berasaskan kepada piawaian moral saya. *I often fail to live up to my moral standards*	1	2	3	4	5
2	Saya hampir selalu merasakan bahawa saya adalah menarik secara fizikal. *I nearly always feel that I am physically attractive*	1	2	3	4	5
3	Kadang-kadang saya ragu samada saya akan berjaya dalam kehidupan. *I occasionally have doubts about whether I will succeed in life*	1	2	3	4	5
4	Saya menghadapi masalah untuk memberitahu orang lain bahawa saya kasih dan sayangkan mereka. *I have trouble letting others know how much I care for and love them*	1	2	3	4	5
5	Apa jua tekanan, tiada siapa yang boleh memaksa saya untuk mencederakan orang lain. *No matter what the pressure, no one could ever force me to hurt another human being*	1	2	3	4	5
6	Saya sangat disukai ramai dan popular. *I am very well-liked and popular*	1	2	3	4	5
7	Adakalanya, saya telah cuba untuk mencari jalan bagi mengelakkan tanggungjawab yang tidak menyenangkan. *On occasion, I have tried to find a way to avoid unpleasant responsibilities*	1	2	3	4	5
8	Adakalanya saya risau bahawa pada masa hadapan saya mungkin akan mengalami masalah untuk mengawal amalan pemakanan dan peminuman saya. *I occasionally worry that in the future I may have a problem with controlling my eating or drinking habits*	1	2	3	4	5

9	Adakalanya adalah sukar bagi saya untuk membuat keputusan tentang sesuatu perkara kerana saya sendiri tidak tahu apa yang saya mahukan. *It is often hard for me to make up my mind about things because I don't really know what I want*	1	2	3	4	5
10	Saya tidak mudah diperkecilkan oleh orang lain. *I am not easily intimidated by others*	1	2	3	4	5
11	Biasanya saya mampu mempamerkan kecekapan apabila saya sedang dinilai. *I am usually able to demonstrate my competence when I am being evaluated*	1	2	3	4	5
12	Saya tidak mempunyai banyak idea tentang bagaimana kehidupan saya pada 5 tahun akan datang. *I don't have much of an idea about what my life will be like in 5 years time*	1	2	3	4	5
13	Saya hampir sentiasa merasakan bahawa saya mempunyai fizikal yang sihat. *I nearly always feel that I am physically fit and healthy*	1	2	3	4	5
14	Saya biasa melakukan perkara yang sopan dan bermoral, tidak kira apa jua godaan untuk melakukan yang sebaliknya. *I usually do the decent and moral thing, no matter what the temptation to do otherwise*	1	2	3	4	5
15	Ada kalanya saya meragui tarikan seksual saya. *There are times when I doubt my sexual attractiveness*	1	2	3	4	5
16	Kadang-kadang saya mempunyai pendapat yang teruk tentang diri saya. *I sometimes have a poor opinion of myself*	1	2	3	4	5
17	Adakalanya saya meragui keupayaan saya untuk mengekalkan hubungan kasih sayang yang rapat. *There are times when I have doubts about my capacity for maintaining a close love relationship*	1	2	3	4	5
18	Pemikiran tentang mencuri barang di kedai tidak pernah terlintas di pemikiran saya. *The thought of shoplifting has never crossed my mind*	1	2	3	4	5
19	Kadangkala saya merasa kecewa atau diketepikan kerana kawan-kawan tidak menyertakan saya dalam rancangan mereka. *I sometimes feel disappointed or rejected because my friends haven't included me in their plans*	1	2	3	4	5
20	Terdapat masa di mana saya terasa untuk membalas dendam ke atas seseorang di atas perbuatannya terhadap saya. *There have been times when I have felt like getting even with somebody for something they have done to me*	1	2	3	4	5
21	Saya merasa bahawa saya tidak mempunyai disiplin diri yang secukupnya.	1	2	3	4	5

	I feel that I don't have enough self-discipline					
22	Umumnya, saya tahu siapa diri saya dan di mana hala tuju kehidupan saya. *In general, I know who I am and where I am headed in my life*	1	2	3	4	5
23	Biasanya saya lebih selesa menjadi pengikut berbanding ketua. *I am usually a lot more comfortable being a follower than a leader*	1	2	3	4	5
24	Kebanyakan orang mengenali saya sebagai seorang yang berbakat besar dan cekap. *Most people who know me consider me to be a highly talented and competent person*	1	2	3	4	5
25	*Saya sering merasa bahawa kurang arah dalam hidup – bahawa saya tidak mempunyai matlamat / rancangan jangkamasa panjang.* *I often feel that I lack direction in my life - i.e. That I have no long-range goals or plans*	1	2	3	4	5
26	Saya hampir sentiasa merasa bahawa saya lebih berkoordinasi secara fizikal berbanding kebanyakan orang (sebaya dan sama jantina). *I nearly always feel that I am better physically co-ordinated than most people (of my own age and sex)*	1	2	3	4	5
27	Saya hampir sentiasa mempunyai hati nurani yang jelas tentang tingkahlaku seksual saya. *I almost always have a clear conscience concerning my sexual behaviour*	1	2	3	4	5
28	Adakalanya saya malu dengan penampilan fizikal saya. *There have been times when I felt ashamed of my physical appearance*	1	2	3	4	5
29	Saya terlalu mengecewakan diri saya. *I put myself down too much*	1	2	3	4	5
30	Ketika berada dalam ketidakpastiaan dan keraguan, saya sentiasa boleh merujuk kepada keluarga untuk galakan dan sokongan. *In times of uncertainty and self doubt, I have always been able to turn to my family for encouragement and support*	1	2	3	4	5
31	Saya tidak pernah merasai bahawa saya telah dihukum secara tidak adil. *I have never felt that I was punished unfairly*	1	2	3	4	5
32	Kawan-kawan hampir sentiasa memastikan saya untuk menyertai dalam rancangan mereka. *My friends almost always make sure to include me in their plans*	1	2	3	4	5
33	Adakalanya saya benar-benar tidak menyukai seseorang itu.	1	2	3	4	5

	There have been times when I intensely disliked someone					
34	Kadang-kadang saya bimbang akan kekurangan kawalan diri saya. *I am sometimes concerned over my lack of self-control*	1	2	3	4	5
35	Setelah meneliti sesuatu keputusan yang penting secara menyeluruh, saya tidak akan mempunyai kesukaran untuk membuat keputusan yang muktamad. *Once I have considered an important decision thoroughly, I have little difficulty making a final decision*	1	2	3	4	5
36	Saya tiada masalah dengan untuk menjadi tegas terhadap diri saya. *I have no problem with asserting myself*	1	2	3	4	5
37	Tidak terdapat mana-mana bidang yang saya benar-benar cemerlang. *There are no areas in which I have a truly outstanding ability*	1	2	3	4	5
38	Kadang-kadang sukar untuk saya percaya bahawa aspek yang berbeza dalam personality saya merupakan sebahagian dari diri saya yang sama. *Sometimes it's hard for me to believe that the different aspects of my personality can be part of the same person*	1	2	3	4	5
39	Kebanyakan orang yang saya kenali mempunyai keupayaan fizikal yang lebih baik dari saya. *Most of the people I know are in better physical condition than I am*	1	2	3	4	5
40	Saya sering rasa bersalah tentang perlakuan seksual saya. *I often feel guilty about my sexual behaviour*	1	2	3	4	5
41	Saya selalu merasakan bahawa saya lebih cantik/kacak berbanding kebanyakan orang lain. *I usually feel that I am better looking than most people*	1	2	3	4	5
42	Secara keseluruhannya, saya menilai diri saya sebagai seorang yang agak berjaya pada peringkat ini dalam hidup saya. *All in all, I would evaluate myself as a relatively successful person at this stage in my life*	1	2	3	4	5
43	Adakalanya saya rasa diketepikan oleh keluarga saya. *There have been times when I have felt rejected by my family*	1	2	3	4	5
44	Adalah kurang penting kepada saya samada saya menang atau kalah dalam suatu pertandingan. *It hardly ever matters to me whether I win or lose a game*	1	2	3	4	5
45	Adakalanya saya mengelak situasi ‘dating’ kerana saya takut akan dikecewakan. *On occasion I have avoided dating situations because I feared rejection*	1	2	3	4	5
46	Kadangkala saya menipu untuk keluar dari suatu perkara.	1	2	3	4	5

	There have been times when I have lied to get out of something					
47	Saya sering tergoda dan menunda kerja-kerja yang sukar. *I often give in to temptation and put off work on difficult tasks*	1	2	3	4	5
48	Saya jarang mengalami konflik di antara sudut yang berbeza bagi personality saya. *I seldom experience conflict between the different sides of my personality*	1	2	3	4	5
49	Saya merasa lebih berpontensial sebagai seorang pemimpin. *I feel I have a lot of potential as a leader*	1	2	3	4	5
50	Saya biasanya mudah untuk mempelajari benda baru dengan sangat cepat. *I am usually able to learn new things very quickly*	1	2	3	4	5
51	Saya kerap merasa berbelah bagi pada arah yang berbeza dan tidak boleh membuat keputusan tentang hala tuju. *I often feel torn in different directions and unable to decide which way to go*	1	2	3	4	5
52	Saya sering mempunyai perasaan bahawa saya telah "sesat" dan saya menjalani kehidupan yang keji atau tidak bermoral. *I occasionally have had the feeling that I have "gone astray" and that I am leading a sinful or immoral life*	1	2	3	4	5
53	Saya telah sering merasakan bahawa orang lain menangkis atau "menolak" penampilan fizikal saya. *I have occasionally felt that others were repelled or "put off" by my physical appearance*	1	2	3	4	5
54	Saya hampir sentiasa mempunyai pendapat yang sangat positif untuk diri saya. *I nearly always have a highly positive opinion of myself*	1	2	3	4	5
55	Kadangkala saya merasakan bahawa tiada siapa yang benar-benar mencintai saya dan menerima diri saya seadanya. *I occasionally feel that no one really loves me and accepts me for the person I am*	1	2	3	4	5
56	Saya hampir tidak pernah tergerak untuk berlaku dingin terhadap seseorang. *I have almost never felt the urge to tell someone off*	1	2	3	4	5
57	Orang lain hampir sentiasa menikmati masa yang mereka habiskan bersama saya. *People nearly always enjoy spending time with me*	1	2	3	4	5
58	Adakalanya saya mengambil kesempatan terhadap orang lain. *There have been occasions when I took advantage of someone*	1	2	3	4	5
59	Saya mengalami kesukaran untuk mengekalkan kawalan diri apabila saya berada dalam keadaan tertekan.	1	2	3	4	5

	I have difficulty maintaining my self-control when I am under pressure					
60	Saya sering bertindak dalam cara yang bertentangan dengan nilai-nilai moral saya. *I have often acted in ways that went against my moral values*	1	2	3	4	5
61	Saya biasanya sangat gembira dan berpuas hati dengan penampilan saya. *I am usually very pleased and satisfied with the way I look*	1	2	3	4	5

Section 2

1	2	3	4	5
Hampir Tidak ***Pernah/ Almost Never***	**Jarang/** ***Seldom or Rarely***	**Kadang-kadang/** ***Sometimes***	**Kerap/** ***Fairly Often***	**Sangat Kerap/** ***Very Often***

62	Berapa kerapkah anda menjangka prestasi yang baik dalam situasi yang memerlukan banyak keupayaan? *How often do you expect to perform well in situations that require a lot of ability?*	1	2	3	4	5
63	Berapa kerapkah anda kalah apabila anda bertelingkah atau bercanggah pendapat dengan orang lain? *How often do you lose when you get into arguments or disagreements with others?*	1	2	3	4	5
64	Adakah anda pernah "memutar belitkan kebenaran" dan mengatakan sesuatu yang tidak benar sepenuhnya? *Do you ever "stretch the truth" and say things that aren't completely true?*	1	2	3	4	5
65	Berapa kerapkah anda berasa yakin bahawa anda mempunyai (atau suatu hari nanti akan mempunyai) hubungan cinta yang berkekalan? *How often do you feel confident that you have (or will someday have) a lasting love relationship?*	1	2	3	4	5
66	Apabila anda bertemu seseorang buat kali pertama, pernahkah anda terfikir bahawa orang itu mungkin tidak menyukai anda? *When you are meeting a person for the first time, do you ever think that the person might not like you?*	1	2	3	4	5
67	Berapa kerapkah anda berasa bangga dengan cara yang anda berdepan dengan suatu tugasan sehingga anda menyelesaikannya? *How often do you feel proud of the way that you stay with a task until you complete it?*	1	2	3	4	5

68	Berapa kerapkah anda berasa tidak berpuas hati dengan diri sendiri? *How often do you feel dissatisfied with yourself?*	1	2	3	4	5
69	Berapa kerapkah anda merasakan bahawa orang lain tertarik terhadap penampilan anda? *How often do you feel that others are attracted to you because of the way you look?*	1	2	3	4	5
70	Berapa kerapkah anda merasakan kesegaran dan keseronokan ke atas cara badan anda berfungsi dalam aktiviti-aktiviti fizikal? *How often do you feel a sense of vitality and pleasure over the way your body functions in physical activities?*	1	2	3	4	5
71	Berapa kerapkah anda berasa tidak pasti dengan nilai-nilai moral anda? *How often do you feel uncertain of your moral values?*	1	2	3	4	5
72	Berapa kerapkah anda berasa sendiri gementar atau janggal semasa anda terlibat dalam aktiviti fizikal? *How often do you feel self-conscious or awkward while you are engaged in physical activities?*	1	2	3	4	5
73	Berapa kerapkah anda berasa begitu pasti tentang apa yang anda mahukan dalam hidup? *How often do you feel very certain about what you want out of life?*	1	2	3	4	5
74	Berapa kerapkah anda mempunyai masalah untuk mempelajari tugasan baru? *How often do you have trouble learning new tasks?*	1	2	3	4	5
75	Apabila anda terlibat di dalam perbincangan kumpulan, berapa kerapkah anda merasakan bahawa idea-idea anda mempunyai pengaruh yang kuat terhadap orang lain? *When you are involved in group discussions, how often do you feel that your ideas have a strong influence on others?*	1	2	3	4	5
76	Adakah anda pernah bergosip? *Do you ever gossip?*	1	2	3	4	5
77	Berapa kerapkah ahli keluarga anda mempunyai kesukaran untuk menyatakan perasaan sayang mereka terhadap anda? *How often do members of your family have difficulty expressing their love for you?*	1	2	3	4	5
78	Berapa kerapkah anda berasa pasti bahawa orang yang anda jumpai akan menyukai anda? *How often do you feel certain that people you meet will like you?*	1	2	3	4	5
79	Berapa kerapkah yang anda rasa gembira dengan diri sendiri kerana jumlah disiplin diri dan tekad bahawa anda punyai?	1	2	3	4	5

	How often are you pleased with yourself because of the amount of self discipline and willpower that you have?					
80	Berapa kerapkah anda merasakan bahawa anda adalah seorang yang sangat penting dan signifikan? *How often do you feel that you are a very important and significant person?*	1	2	3	4	5
81	Berapa kerapkah anda berharap bahawa anda lebih menarik secara fizikal? *How often do you wish that you were more physically attractive?*	1	2	3	4	5
82	Berapa kerapkah badan anda menunjukkan prestasi yang sangat baik dalam aktiviti fizikal, seperti menari atau bersukan? *How often does your body perform exceptionally well in physical activities, such as dancing or sports?*	1	2	3	4	5
83	Berapa kerapkah anda (melalui tingkah laku anda) menetapkan satu contoh moral yang baik untuk orang lain yang lebih muda daripada anda sendiri? *How often do you (by your behaviour) set a good moral example for others younger than yourself?*	1	2	3	4	5
84	Berapa kerapkah anda berasa kekok apabila anda terlibat dalam aktiviti fizikal? *How often do you feel clumsy when you are involved in physical activities?*	1	2	3	4	5
85	Berapa kerapkah anda berada dalam konflik atau tidak pasti mengenai rancangan kerjaya anda? *How often do you feel conflicted or uncertain about your career plans?*	1	2	3	4	5
86	Berapa kerapkah anda merasakan bahawa anda boleh melakukan dengan baik dalam hampir kesemua benda yang anda cuba? *How often do you feel that you can do well at almost anything you try?*	1	2	3	4	5
87	Berapa kerapkah anda boleh menjadi tegas dan kuat dalam situasi di mana yang lain cuba untuk mengambil kesempatan daripada anda? *How often are you able to be assertive and forceful in situations where others are trying to take advantage of you?*	1	2	3	4	5
88	Pernahkah anda meradang apabila seseorang meminta anda untuk melakukan sesuatu? *Have you ever felt irritated when someone asked you for a favour?*	1	2	3	4	5
89	Berapa kerapkah anda rasa dapat meluahkan perasaan hangat dan kasih sayang secara terbuka terhadap orang lain?	1	2	3	4	5

	How often do you feel able to openly express warm and loving feelings towards others?					
90	Adakah anda pernah merasakan seperti sangat tidak disukai oleh sesetengah orang, sehingga mereka tidak tahan dengan anda? *Does it ever seem to you that some people dislike you intensely, that they "can't stand" you?*	1	2	3	4	5
91	Berapa kerapkah anda merasakan bahawa anda lebih berjaya daripada kebanyakan orang dalam mengawal amalan pemakanan dan peminuman anda? *How often do you feel that you are more successful than most people at controlling your eating and drinking behaviour?*	1	2	3	4	5
92	Berapa kerapkah anda berasa benar-benar bagus tentang diri anda? *How often do you feel really good about yourself?*	1	2	3	4	5
93	Berapa kerapkah anda dipuji atas penampilan fizikal anda? *How often are you complimented on your physical appearance?*	1	2	3	4	5
94	Berapa kerapkah yang anda rasa dalam bahawa keadaan fizikal anda optimum? *How often do you feel in top physical condition?*	1	2	3	4	5
95	Berapa kerapkah kepuasan anda terhadap kesedaran nilai-nilai moral anda? *How often are you pleased with your sense of moral values?*	1	2	3	4	5
96	Berapa kerapkah badan anda rasa "kurang sihat" atau lembap? *How often does your body feel "out of sorts" or sluggish?*	1	2	3	4	5
97	Pernahkah anda merasakan bahawa anda kurang kepintaran yang diperlukan untuk berjaya dalam sesetengah pekerjaan yang menarik? *Have you ever felt that you lacked the intelligence needed to success in certain types of interesting work?*	1	2	3	4	5
98	Adakah anda rasa seronok apabila anda berada dalam kedudukan sebagai seorang pemimpin? *Do you enjoy it when you are in a position of leadership?*	1	2	3	4	5
99	Pernahkah anda merasa cemburu dengan nasib baik yang diterima oleh orang lain? *Have you ever felt jealous of the good fortune of others?*	1	2	3	4	5
100	Pernahkah anda merasa sendirian dan tidak disayangi? *Have you ever felt alone and unloved?*	1	2	3	4	5
101	Apabila anda keluar dengan seseorang buat pertama kali, berapa kerapkah anda merasakan bahawa anda adalah sangat disukai?	1	2	3	4	5

	When you go out with someone for the first time, how often do you feel that you are well-liked?					
102	Berapa kerapkah anda dapat melatih kawalan diri anda lebih daripada kebanyakan orang yang anda tahu? *How often are you able to exercise more self-control than most of the people you know?*	1	2	3	4	5
103	Berapa kerapkah anda merasa sangat berpuas hati dengan masa depan yang anda lihat sendiri? *How often do you feel highly satisfied with the future you see for yourself?*	1	2	3	4	5
104	Berapa kerapkah anda berasa tidak menarik apabila anda melihat diri anda tidak berpakaian? *How often do you feel unattractive when you see yourself naked?*	1	2	3	4	5
105	Berapa kerapkah anda berasa seronok apabila orang lain menonton semasa anda terlibat dalam aktiviti fizikal seperti menari atau bersukan? *How often do you enjoy having other watch you while you are engaged in physical activities such as dancing or sports?*	1	2	3	4	5
106	Berapa kerapkah anda berasa amat berpuas hati dengan cara hidup yang seiring dengan nilai-nilai moral anda? *How often do you feel highly satisfied with the way you live up to your moral values?*	1	2	3	4	5
107	Berapa kerapkah anda merasakan bahawa anda tidak sepintar yang anda inginkan? *How often do you feel that you are not as intelligent as you would like to be?*	1	2	3	4	5
108	Berapa kerapkah anda berasa tidak selesa apabila berada dalam kedudukan sebagai pemimpin? *How often do you feel uneasy when you are in a position of leadership?*	1	2	3	4	5
109	Berapa kerapkah anda merasa sukar untuk mengakui apabila anda telah membuat kesilapan? *How often is it hard for you to admit it when you have made a mistake?*	1	2	3	4	5
110	Berapa kerapkah orang-orang yang kamu kasihi bersusah-payah untuk memberitahu anda betapa mereka mengambil berat akan diri anda? *How often do people whom you love go out of their way to let you know how much they care for you?*	1	2	3	4	5
111	Berapa kerapkah anda rasakan bahawa anda adalah salah seorang ahli yang paling popular dan diminati daripada daripada kumpulan sosial anda? *How often do you feel that you are one of the most popular and likeable members of your social group?*	1	2	3	4	5

112	Berapa kerapkah yang anda mampu untuk melawan godaan dan gangguan untuk menyelesaikan tugasan yang sedang anda lakukan? *How often are you able to resist temptations and distractions in order to complete tasks you are working on?*	1	2	3	4	5
113	Berapa kerapkah anda rasa kurang keyakinan diri? *How often do you feel lacking in self-confidence?*	1	2	3	4	5
114	Berapa kerapkah anda menghadapi tugasan baru dengan keyakinan yang tinngi terhadap keupayaan anda? *How often do you approach new tasks with a lot of confidence in your ability?*	1	2	3	4	5
115	Berapa kerapkah anda mempunyai pengaruh yang kuat terhadap sikap dan pendapat orang lain? *How often do you have a strong influence on the attitudes and opinions of others?*	1	2	3	4	5
116	Berapa kerapkah anda berasa senang hati apabila menerima kritikan yang sepatutnya? *How often do you gladly accept criticism when it is deserved?*	1	2	3	4	5

B3 Reactive Proactive Aggression Questionnaire (RPQ – Raine et al., 2006)

Sila jawab setiap item di bawah dengan memBULATkan nombor yang sesuai.
Please rate each of the items below by CIRCLING the appropriate number.

1	2	3
Tidak Pernah/ *Never*	**Kadang-kadang/ *Sometimes***	**Kerap/ *Often***

1	Memekik pada orang lain apabila mereka telah memarahi anda. *Yelled at others when they have annoyed you*	1	2	3
2	Bergaduh dengan orang lain untuk menunjukkan siapakah yang lebih berkuasa. *Had fights with others to show who was on top*	1	2	3
3	Bertindak balas dengan marah apabila orang lain membangkitkan kemarahan. *Reacted angrily when provoked by others*	1	2	3
4	Mengambil sesuatu dari orang lain. *Taken things from others*	1	2	3
5	Menjadi marah apabila kecewa. *Become angry when frustrated*	1	2	3
6	Melakukan vandalisme untuk keseronokan. *Vandalised something just for fun*	1	2	3
7	Menunjukkan kemarahan dengan membuat perangai. *Had temper tantrums*	1	2	3
8	Merosakkan sesuatu kerana anda berang. *Damaged something because you felt mad*	1	2	3
9	Bergaduh hanya untuk rasa bagus. *Had a fight just to be cool*	1	2	3
10	Menyakiti orang lain untuk memenangi suatu pertandingan. *Hurt others to win a game*	1	2	3
11	Menjadi marah apabila anda tidak mendapat apa yang anda ingini. *Become angry when you don't get your way*	1	2	3
12	Menggunakan paksaan ke atas orang lain untuk mendapatkan apa yang anda ingini. *Used force to get others to do what you want*	1	2	3
13	Menjadi marah atau berang apabila anda kalah dalam suatu pertandingan. *Become angry or mad when you lost a game*	1	2	3
14	Menjadi marah apabila orang lain mengancam anda. *Become angry when others threatened you*	1	2	3

15	Menggunakan paksaan untuk mendapatkan duit atau barangan dari yang orang lain. *Used force to obtain money or things from others*	1	2	3
16	Merasa lega setelah memukul atau memekik kearah seseorang. *Felt better after hitting or yelling at someone*	1	2	3
17	Mengancam dan membuli seseorang. *Threatened and bullied someone*	1	2	3
18	Membuat panggilan lucah untuk berseronok. *Made obscene phone calls for fun*	1	2	3
19	Memukul orang lain untuk mempertahankan diri. *Hit others to defend yourself*	1	2	3
20	Bersekongkol bersama untuk menakutkan orang lain. *Got others to gang up on somebody else*	1	2	3
21	Membawa senjata untuk digunakan dalam pergaduhan. *Carried a weapon to use in a fight*	1	2	3
22	Menjadi marah atau berang atau memukul orang lain apabila diejek. *Become angry or mad or hit others when teased*	1	2	3
23	Memekik kearah orang lain supaya mereka melakukan sesuatu untuk anda. *Yelled at others so they would do things for you*	1	2	3

B4 Narcissistic Personality Inventory (NPI- Raskin & Terry, 1988)

Sila baca setiap pasang pernyataan dan pilih yang paling berkaitan dengan perasaan anda. Jawab dengan memBULATkan perkataan (A atau B) untuk setiap item.
Please read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by CIRCLING the letter (A or B) for each item.

	A	B
1	Saya mempunyai bakat semulajadi untuk mempengaruhi orang. *I have a natural talent for influencing people.*	Saya tidak pandai untuk mempengaruhi orang . *I am not good at influencing people.*
2	Kesederhanaan bukanlah saya. *Modesty doesn't become me.*	Pada dasarnya saya seorang yang sederhana. *I am essentially a modest person.*
3	Saya akan melakukan hampir apa sahaja yang dicabar. *I would do almost anything on a dare*	Saya cenderung untuk menjadi seseorang yang agak berhati-hati *I tend to be a fairly cautious person*
4	Saya menjadi segan apabila orang memuji saya. *When people compliment me I sometimes get embarrassed*	Saya tahu bahawa saya baik kerana semua orang sering memberitahu saya begitu. *I know that I am good because everybody keeps telling me so*
5	Pemikiran untuk menguasai dunia amat menakutkan saya. *The thought of ruling the world frightens the hell out of me*	Jika saya memerintah dunia, ia akan menjadi tempat lebih baik. *If I ruled the world it would be a better place*
6	Saya biasanya boleh bercakap tentang apa saja. *I can usually talk my way out of anything*	Saya cuba untuk menerima akibat daripada perlakuan saya. *I try to accept the consequences of my behaviour*
7	Saya lebih suka untuk bergaul dengan orang ramai. *I prefer to blend in with the crowd*	Saya suka menjadi pusat perhatian. *I like to be the centre of attention*
8	Saya akan mencapai kejayaan. *I will be a success*	Saya tidak terlalu bimbang tentang kejayaan *I am not too concerned about success*
9	Saya adalah seperti kebanyakan orang. *I am no better or worse than most people*	Saya merasaan bahawa saya seorang yang istimewa. *I think I am a special person*
10	Saya tidak pasti jika saya akan menjadi seorang pemimpin yang baik.	Saya melihat diri saya sebagai pemimpin yang baik. *I see myself as a good leader*

	I am not sure if I would make a good leader	
11	Saya seorang yang tegas. *I am assertive*	Saya berharap agar saya lebih tegas. *I wish I were more assertive*
12	Saya suka mempunyai kuasa ke atas orang lain. *I like to have authority over other people*	Saya tidak keberatan untuk mengikut peraturan. *I don't mind following orders*
13	Saya mendapati mudah untuk memanipulasi orang. *I find it easy to manipulate people*	Saya tidak suka apabila saya mendapati diri saya memanipulasi orang. *I don't like it when I find myself manipulating people*
14	Saya menegaskan untuk mendapat penghormatan yang harus saya terima. *I insist upon getting the respect that is due me*	Saya biasanya mendapat penghormatan yang sepatutnya. *I usually get the respect I deserve*
15	Saya tidak suka untuk menunjuk-nunjuk terutamanya badan saya. *I don't particularly like to show off my body*	Saya suka menunjuk-nunjukkan badan saya. *I like to show off my body*
16	Saya boleh membaca orang seperti buku. *I can read people like a book*	Kadangkala orang sukar untuk difahami. *People are sometimes hard to understand*
17	Jika saya rasa berkebolehan, saya sedia untuk bertanggungjawab membuat keputusan. *If I feel competent I am willing to take responsibility for making decisions*	Saya ingin bertanggungjawab untuk membuat keputusan. *I like to take responsibility for making decisions*
18	Saya hanya mahu menjadi gembira sewajarnya. *I just want to be reasonably happy*	Saya mahu mencapai sesuatu matlamat di mata dunia. *I want to amount to something in the eyes of the world*
19	Badan saya tiada apa-apa yang istimewa. *My body is nothing special*	Saya suka melihat badan saya. *I like to look at my body*
20	Saya cuba untuk tidak menunjuk-nunjuk. *I try not to be a show off*	Saya biasanya akan menunjuk-nunjuk jika berpeluang. *I will usually show off if I get the chance*
21	Saya sentiasa tahu apa yang saya lakukan.	Kadangkala saya tidak pasti dengan apa yang saya lakukan.

	I always know what I am doing	*Sometimes I am not sure of what I am doing*
22	Kadangkala saya bergantung kepada orang ramai untuk menyelesaikan sesuatu perkara. *I sometimes depend on people to get things done*	Saya jarang bergantung kepada orang lain untuk mendapatkan perkara yang diingini. *I rarely depend on anyone else to get things done*
23	Kadangkala saya memberitahu cerita yang baik. *Sometimes I tell good stories*	Semua orang suka mendengar cerita saya. *Everybody likes to hear my stories*
24	Saya mempunyai jangkaan yang tinggi terhadap orang lain. *I expect a great deal from other people*	Saya suka untuk melakukan sesuatu untuk orang lain. *I like to do things for other people*
25	Saya tidak akan berpuas hati sehingga saya mendapati apa yang saya berhak. *I will never be satisfied until I get all that I deserve*	Saya sekadar berpuas hati. *I take my satisfactions as they come*
26	Pujian membuatkan saya segan. *Compliments embarrass me*	Saya suka dipuji. *I like to be complemented*
27	Saya mempunyai semangat yang kuat. *I have a strong will to power*	Kekuasaan semata-mata tidak menarik minat saya. *Power for its own sake doesn't interest me*
28	Saya tidak peduli mengenai aliran baru dan fesyen. *I don't care about new fads and fashions*	Saya suka untuk memulakan aliran baru dan fesyen. *I like to start new fads and fashions*
29	Saya suka melihat diri saya di dalam cermin. *I like to look at myself in the mirror*	Saya tidak berminat melihat diri saya di dalam cermin. *I am not particularly interested in looking at myself in the mirror*
30	Saya benar-benar suka menjadi pusat perhatian. *I really like to be the centre of attention*	Ia membuatkan saya tidak selesa untuk menjadi pusat perhatian. *It makes me uncomfortable to be the centre of attention*
31	Saya boleh hidup dengan apa sahaja cara yang saya mahu. *I can live my life any way I want to*	Manusia tidak boleh sentiasa hidup dengan kehidupan berdasarkan apa yang mereka ingini. *People can't always live their lives in terms of what they want*
32	Menjadi pihak yang berkuasa tidak membawa banyak makna kepada saya.	Orang seolah-olah selalu mengiktiraf kekuasaan saya.

	Being an authority doesn't mean that much to me	*People always seem to recognise my authority*
33	Saya lebih suka untuk menjadi seorang pemimpin. *I would prefer to be a leader*	Tidak banyak perbezaan samada saya seorang pemimpin atau tidak. *It makes little difference to me whether I am a leader or not*
34	Saya akan menjadi orang yang hebat. *I am going to be a great person*	Saya berharap saya akan berjaya. *I hope I am going to be successful*
35	Kadangkala orang percaya apa yang saya beritahu mereka. *People sometimes believe what I tell them*	Saya boleh membuat sesiapa percaya apa-apa yang saya mahu mereka percayai. *I can make anybody believe anything that I want them to*
36	Saya seorang pemimpin sejati. *I am a born leader*	Kepimpinan adalah kualiti yang mengambil masa yang lama untuk dibangunkan. *Leadership is a quality that takes a long time to develop*
37	Saya berharap agar suatu hari nanti seseorang akan menulis biografi saya. *I wish that somebody would someday write my biography*	Saya tidak suka orang menyibuk ke dalam hidup saya tanpa sebab. *I don't like people to pry into my life for any reason*
38	Saya kecewa apabila orang tidak melihat bagaimana penampilan saya di khalayak ramai. *I get upset when people don't notice how I look when I go out in public*	Saya tidak keberatan untuk bergaul dengan orang ramai apabila saya keluar di khalayak ramai. *I don't mind blending into the crowd when I go out in public*
39	Saya lebih berkeupayaan daripada orang lain. *I am more capable than other people*	Terdapat banyak yang saya boleh pelajari daripada orang lain. *There is a lot that I can learn from other people*
40	Saya adalah seperti orang lain. *I am much like everybody else*	Saya seorang yang luar biasa. *I am an extraordinary person*

APPENDIX C - SOLAS STUDY

C1 Demographic Questionnaire

Part A

First Name: _____

Surname: _____

Gender: _____

Date of Birth: _____

Place of Birth: _____

Part B

Please provide us with as much of the following information as possible. If you do not feel comfortable answering a question you may leave it blank.

1. Gender: Male / Female
2. Age: _____
3. Ethnicity: _____
4. Religious Affiliation (e.g. Christian, Muslim, no affiliation):

   _____
5. How religious do you consider yourself to be? (Please circle where applicable)

1	2	3	4	5
Not at all		**Moderately**		**Extremely**

6. Occupational Status: (Working full-time / working part-time / Does not work)
7. Current Status: (Single/ Dating/ Engaged/ Married)
8. Length of Current Romantic Relationship (in months; if applicable):

   _____

C2 Schonell Reading Test (Schonell, 1971)

tree	little	milk	egg
book	school	sit	frog
playing	bun	flower	road
clock	train	light	picture
think	summer	people	something
dream	downstairs	biscuit	shepherd
thirsty	crowd	sandwich	beginning
postage	island	saucer	angel
ceiling	appeared	gnome	canary
attractive	imagine	nephew	gradually
smoulder	applaud	disposal	nourished
diseased	university	orchestra	knowledge
audience	situated	physics	campaign
choir	intercede	fascinate	forfeit
siege	recent	plausible	prophecy
colonel	soloist	systematic	slovenly
classification	genuine	institution	pivot
conscience	heroic	pneumonia	preliminary
antique	susceptible	enigma	oblivion
scintillate	satirical	sabre	beguile
terrestrial	belligerent	adamant	sepulchre
statistics	miscellaneous	procrastinate	tyrannical
evangelical	grotesque	ineradicable	judicature
preferential	homonym	fictitious	rescind
metamorphosis	somnambulist	bibliography	idiosyncrasy

C3 Rosenberg Self-Esteem Scale (RSES – Rosenberg, 1965)

Below is a list of statements dealing with your general feelings about yourself. For each of the following, please corresponds with the answer that best describes how strongly you agree or disagree with each statement.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	On the whole, I am satisfied with myself.	1	2	3	4
2.	At times, I think I am no good at all.	1	2	3	4
3.	I feel that I have a number of good qualities.	1	2	3	4
4.	I am able to do things as well as most other people.	1	2	3	4
5.	I feel I do not have much to be proud of.	1	2	3	4
6.	I certainly feel useless at times.	1	2	3	4
7.	I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8.	I wish I could have more respect for myself.	1	2	3	4
9.	All in all, I am inclined to feel that I am a failure.	1	2	3	4
10.	I take a positive attitude toward myself.	1	2	3	4

C4 Personal Attributes Questionnaire (PAQ – Spence et al., 1974)

The items below inquire about what kind of person you think you are. Each item consists of a PAIR of characteristics, with the letters A-E in between. For example,

Not at all artistic A.....B.....C.....D.....E Very artistic

Each pair describes contradictory characteristics - that is, you cannot be both at the same time, such as very artistic and not at all artistic. The letters form a scale between the two extremes. You are to choose a letter which describes where YOU fall on the scale. For example, if you think that you have no artistic ability, you would choose A. If you think that you are pretty good, you might choose D.

1	Not at all aggressive	A.....B.....C.....D.....E	Very aggressive
2	Not at all independent	A.....B.....C.....D.....E	Very independent
3	Not at all emotional	A.....B.....C..... D.....E	Very emotional
4	Very submissive	A.....B.....C.....D.....E	Very dominant
5	Not at all excitable in a major crisis	A.....B.....C.....D.....E	Very excitable in a major crisis
6	Very passive	A.....B.....C.....D..... E	Very active
7	Not at all able to devote self completely to others	A.....B.....C.....D.....E	Able to devote self completely to others
8	Very rough	A.....B.....C.....D.....E	Very gentle
9	Not at all helpful to others	A.....B.....C.....D.....E	Very helpful to other
10	Not at all competitive	A.....B.....C.....D.....E	Very competitive
11	Very home oriented	A.....B.....C.....D.....E	Very worldly
12	Not at all kind	A.....B.....C.....D.....E	Very kind
13	Indifferent to others' approval	A.....B.....C.....D.....E	Highly needful of others' approval
14	Feelings not easily hurt	A.....B.....C.....D.....E	Feelings easily hurt
15	Not at all aware of feelings of others	A.....B.....C.....D.....E	Very aware of feelings of others
16	Can make decisions easily	A.....B.....C.....D.....E	Has difficulty making decisions
17	Give up easily	A.....B.....C.....D.....E	Never gives up easily
18	Never cries	A.....B.....C.....D.....E	Cries very easily
19	Not at all self-confident	A.....B.....C.....D.....E	Very self-confident
20	Feels very inferior	A.....B.....C.....D.....E	Feels very superior
21	Not at all understanding of others	A.....B.....C.....D.....E	Very understanding of others

22	Very cold in relations with others	A.....B.....C.....D.....E	Very warm in relations with others
23	Very little need for security	A.....B.....C.....D.....E	Very strong need for security
24	Goes to pieces under pressure	A.....B.....C.....D.....E	Stands up well under pressure